

# Business School



**12<sup>th</sup> International Conference on Tax Administration**  
31 March & 1 April 2016, Sydney, AUSTRALIA

Never Stand Still

Business School

Taxation and Business Law

## **The applicability of the OTS Complexity Index to comparative analysis between countries: Australia, New Zealand, Turkey, and the UK**

**Tamer Budak**

Associate Professor of Tax Law  
Inonu University Law Faculty

**Simon James**

Associate Professor of Economics  
University of Exeter Business School

# The Applicability of the OTS Complexity Index to Comparative Analysis between countries: Australia, New Zealand, Turkey, and the UK

Tamer Budak & Simon James\*

## **Abstract**

Tax systems world-wide are becoming more complex for a variety of reasons. Countries such as Australia, New Zealand (NZ) and the UK have attempted to simplify their taxes but with limited success. The Complexity Index produced by the Office of Tax Simplification (OTS) in the UK is an important contribution in this field. This paper considers general issues in relation to complexity and simplification and then examines the usefulness of the OTS Complexity Index for making international comparisons by applying it to income tax, VAT or GST in Australia, NZ, Turkey, and the UK. It finds some striking differences in the complexity of the taxes in these countries. For example, Turkey's score is much better in terms of total underlying complexity, whereas NZ's score is better in terms of total impact complexity for taxes. This paper provides evidence which identifies certain areas where the level of complexity might be unnecessarily high. It also finds that the OTS Complexity Index is not appropriate for international comparative analysis although it can be utilized to gather common data in different countries. This paper suggests that by creating an international index based on the OTS method would make a major contribution to the development of a new approach in tax simplification.

## **1. Introduction**

Comparative analysis of different countries has evolved in recent decades and plays a vital role since it may increase understanding of which systems or applications are better than others according to particular criteria. It is becoming an important area especially in international studies. In recent years, some international research centres and institutions have produced reports in specific fields and some of them are related to taxation and tax systems. Furthermore, the amount of tax reform has increased. One of the aims of tax reform is to make tax systems more user-friendly but this in general, and tax simplification in particular, are complex issues. Simplification is a very desirable feature of a tax system but it is only one of many important considerations involved in the design of tax systems. Some countries such as Australia, NZ, and the UK have made serious attempts to simplify their tax systems and simplification initiatives have been made in many other countries as well. However, it would be very helpful to have a new method or tool to enhance comparative analysis of tax systems which takes into account the circumstances and institutions of each country.

---

\*Tamer Budak is an Associate Professor at the Inonu University of Faculty of Law, Turkey. Simon James is an Associate Professor of Economics at the University of Exeter Business School, UK. The authors are very grateful to Dr Joseph Zand for valuable help with an earlier version of this paper.

Comparing tax systems based on simplification or complexity has, of course, difficulties and limitations. There are few comparative studies of tax system complexity in two or more countries. Countries have different features of language, culture and types of system and so comparisons are difficult. Nevertheless, it might be possible to establish common features and objective assessments even across countries with different characteristics. Perhaps the most important aspect is to establish how to measure tax complexity. This paper begins in section 2 with a comparative analysis of initiatives in different areas followed by an examination of the definition of tax complexity or simplification in section 3. Section 4 examines some of the main initiatives concerned with measuring complexity. Section 5 tests the Office of Tax Simplification (OTS) Complexity Index for comparative analysis and Section 6 presents the findings of the application of this index to income tax and value added tax (VAT)/Goods and Services Tax (GST) in Australia, NZ, Turkey and the UK. Finally, section 7 offers some conclusions and proposals.

## 2. Comparative analysis in different areas

There have been comparative analyses in different fields around the world. They relate to social life, education, political systems, law, air pollution, tax systems and so on. The majority of methods and data used in these studies are objective and some of these comparative analyses are:

- Family policies in OECD countries: a comparative analysis<sup>1</sup>
- Education systems in asean+6 countries: a comparative analysis of selected educational issues<sup>2</sup>
- Trans-pacific partnership countries: comparative trade and economic analysis<sup>3</sup>
- Comparative analysis of firm demographics and survival: micro-level evidence for the OECD countries<sup>4</sup>
- Financing democracy: funding of political parties and election campaigns and the risk of policy capture<sup>5</sup>
- Languages in education and training: final country comparative analysis<sup>6</sup>
- A comparative analysis of health policy performance in 43 European countries<sup>7</sup>

---

<sup>1</sup> Olivier Thévenon, 'Family Policies in OECD Countries: A Comparative Analysis' *Population and Development Review* (2011) 37(1) 57–87.

<sup>2</sup> UNESCO Bangkok Office, 'Education Systems in ASEAN+6 Countries: A Comparative Analysis of Selected Educational Issues' (Discussion Document No.5, UNESCO Education Policy Research 2014) 1-75 <<http://unesdoc.unesco.org/images/0022/002267/226757E.pdf>>.

<sup>3</sup> Brock R. Williams, 'Trans-Pacific Partnership (TPP) Countries: Comparative Trade and Economic Analysis' (Report No.7-5700, Congressional Research Service 2013) <<https://www.fas.org/sgp/crs/row/R42344.pdf>>

<sup>4</sup> Eric Bartelsman, Stefano Scarpetta and Fabiano Schivardi, 'Comparative Analysis of Firm Demographics and Survival: Micro-Level Evidence for the OECD Countries' (Working Paper No.348, OECD 2003) <[http://www.oecd-ilibrary.org/economics/comparative-analysis-of-firm-demographics-and-survival\\_010021066480](http://www.oecd-ilibrary.org/economics/comparative-analysis-of-firm-demographics-and-survival_010021066480)>

<sup>5</sup> OECD, *Financing Democracy: Funding of Political Parties and Election Campaigns and the Risk of Policy Capture* (Paris: OECD Publishing, 2016)

<sup>6</sup> Shane Beadle and David Scott, *Languages in Education and Training: Final Country Comparative Analysis* (Report No. J9241, European Commission 2014) <[http://ec.europa.eu/languages/library/studies/lang-eat\\_en.pdf](http://ec.europa.eu/languages/library/studies/lang-eat_en.pdf)>

- Why are saving rates so different across countries?: an international comparative analysis<sup>8</sup>
- A comparative analysis of the structure of tax systems in industrial countries<sup>9</sup>
- Paying taxes 2016: the global picture<sup>10</sup>
- Are stock prices related to the political uncertainty index in OECD countries? Evidence from the bootstrap panel causality test.<sup>11</sup>

The number of the such studies will

undoubtedly rise considerably in the future given the opportunities they offer to compare topics in different countries. Nevertheless they have to be comprehensive and thorough. For example, regarding taxation it is important to consider governments' fiscal and non-fiscal aims and other relevant considerations related to the development of a tax system and its administration. One of the main issues that is constantly discussed is the complexity of tax systems.

### 3. The definition of tax complexity or simplification

Although tax complexity is a much debated topic, defining or measuring what is meant by complexity is difficult and a serious barrier to tax simplification.<sup>12</sup> To arrive at a definition of 'complexity' is not an easy task. Most scholars do not define tax complexity but they have listed and categorised some characteristics that contribute to complexity. For instance Slemrod lists four main dimensions of tax complexity: enforceability, predictability, difficulty and manipulability. He also provides a description of tax complexity as the sum of compliance costs or the total resource cost and administrative costs incurred in complying with the system's requirements. Hence, this description provides a link between costs of compliance and tax complexity.<sup>13</sup> Manipulability and difficulty refer to taxpayers' compliance to tax law enforceability and predictability relates to tax law.<sup>14</sup> In another important study carried out by McCaffery, it is observed that a separation of three main types as

---

<sup>7</sup> Johan P. Mackenbach, Martin McKee, 'A comparative analysis of health policy performance in 43 European countries' *European Journal of Public Health* (2013) 23(2) 195–344

<sup>8</sup> Sebastian Edwards, 'Why are Saving Rates so Different Across Countries?: An International Comparative Analysis' *Journal of Development Economics* (1996) 51(1) 5-44.

<sup>9</sup> Enrique G. Mendoza, Assaf Razin and Linda L. Tesar, 'A Comparative Analysis of the Structure of Tax Systems in Industrial Countries' (Working Paper No. WP/39/14, International Monetary Fund 1993)

<sup>10</sup> PricewaterhouseCoopers International Limited, *Paying Taxes 2016: The Global Picture a Comparison of Tax Systems in 189 Economies Worldwide* (2016)  
<<http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Special-Reports/Paying-Taxes-2016.pdf>>

<sup>11</sup> Tsangyao Chang, Wen-Yi Chen, Rangan Gupta and Duc Khuong Nguyen, 'Are stock prices related to the political uncertainty index in OECD countries? Evidence from the bootstrap panel causality test' *Economic Systems* (2015) 39(2) 288–300.  
<<http://www.sciencedirect.com/science/article/pii/S0939362515000229>>

<sup>12</sup> David Morris, *Tax Cheating: Illegal--But Is It Immoral?* (Albany: State University of New York Press, 2012) 73.

<sup>13</sup> Joel Slemrod, 'Complexity, Compliance Costs, and Tax Evasion' in Jeffrey Roth and John Scholz (eds), *Taxpayer Compliance: Social Science Perspectives* (University of Pennsylvania Press, 1989) 156-181.

<sup>14</sup> Chris Evans and Binh Tran-Nam, 'Managing Tax System Complexity: Building Bridges Through Pre-Filled Tax Returns' (2012) 25 *Australian Tax Forum* 247-276.

between technical, structural and compliance complexity is required.<sup>15</sup> Cooper suggests that tax complexity may include the dimensions of proportionality, predictability, compliance, consistency, administration, coordination and expression<sup>16</sup> and his contribution may be considered as a more comprehensive version of Slemrod's.<sup>17</sup>

There is much political debate regarding a tax system's complexity and its simplification process may have many forms in a complex socio-economic environment.<sup>18</sup> It is often believed that tax simplification requires changing the wording of tax law so that it is not only user friendly but also understandable for everyone. But this is not sufficient to have a successful tax system. In reality, simplification means that it would also be necessary to design plain and understandable laws, reduce distortions and harmonise taxes at national or federal and local level.<sup>19</sup> Simplified taxes may reduce taxpayers' burdens of complying with the tax system in terms of time and money. By reducing these costs, simplification can also reduce the whole burden of taxation on the taxpayer.<sup>20</sup> At the same time, a simple tax system increases transparency and reduces number of points of contact between businesses and tax authorities.<sup>21</sup> So there are many advantages associated with a simple tax system and they may be summarised as lower compliance costs, lower administrative costs, fewer economic distortions, fewer errors and, as a result, more transparency and accountability.<sup>22</sup>

As discussed above, Cooper's analysis shows there are at least seven issues that should be considered, that the idea of simplification is very complex and that any tax simplification project would have to clearly state what its aims are and to be carried out with considerable care.<sup>23</sup> In order to create a new approach to tax simplification, the OTS, has considered a range of options, such as Adam Smith's four criteria (equity, certainty, efficiency and simplicity) or Cooper's seven dimensions of tax system simplification.<sup>24</sup>

---

<sup>15</sup> Edward J. McCaffery, 'The Holy Grail of Tax Simplification' (1990) 5 *Wisconsin Law Review* 1267–1322.

<sup>16</sup> Graeme S. Cooper, 'Themes and Issues in Tax Simplification' (1993) 10 (4) *Australian Tax Forum* 417–460.

<sup>17</sup> See C. Evans and B. Tran-Nam, 2013.

<sup>18</sup> Organisation for Economic Co-operation and Development, *Fundamental Reform of Personal Income Tax* (May 2006) <<http://browse.oecdbookshop.org/oecd/pdfs/product/2306081e.pdf>>

<sup>19</sup> Victor Thuronyi, 'Drafting Tax Legislation' in Victor. Thuronyi (ed), *Tax Law Design and Drafting* (International Monetary Fund, 1996) 71-94.

<sup>20</sup> William Gale, 'Tax Simplification: Issues and Options' (2001) 92(11) *Tax Notes* 1463-1481.

<sup>21</sup> Sebastian S. James, *A Handbook for Tax Simplification* (November 2009) <[http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/01/06/000334955\\_20110106032224/Rendered/PDF/588150WP0FIAS110BOX353820B01PUBLIC1.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/01/06/000334955_20110106032224/Rendered/PDF/588150WP0FIAS110BOX353820B01PUBLIC1.pdf)>

<sup>22</sup> Mark Nicholson, *Keep it Simple: Proposals to Reduce the Complexity of the UK Tax System* (30 January 2006) The Bow Group <<http://www.bowgroup.org/sites/bowgroup.uat.pleasetest.co.uk/files/Keep%2520It%2520Simple.pdf>>.

<sup>23</sup> Simon James and Ian Wallschutzky, 'Tax Law Improvement in Australia and the UK: The Need for a Strategy for Simplification' (1997) 18(4) *Fiscal Studies* 445–460.

<sup>24</sup> Gareth. Jones, Phillip Rice, Jeremy Sherwood and John Whiting, *Developing a Tax Complexity Index for the UK* (14 September 2014) Office of Tax Simplification

It has to be emphasized that the main cost of tax complexity relates to compliance costs. The two major types of costs associated with raising tax revenue are collection and efficiency costs. Collection costs cover administration costs<sup>25</sup> and the compliance costs incurred by taxpayers in meeting their obligations under tax system.<sup>26</sup> Compliance costs can also be further categorised into mandatory costs that taxpayers face to meet their legal liabilities and voluntary costs, which refer to extra burdens taxpayers may incur to determine or minimise their tax liability.<sup>27</sup> Tax complexity in general contributes to the rise in higher administrative and compliance costs.<sup>28</sup>

Furthermore, there are also some hidden costs, which relate to time, money, foregone economic growth, gaps in revenue collection, and lobbying expenditures. For instance in the USA, estimates of such hidden costs have ranged from \$215 billion to \$987 billion in addition to a \$452 billion revenue gap in unreported taxes<sup>29</sup>

Globally, it has been estimated that businesses on average spend over a month each year complying with tax regulations according to research by the World Bank. This includes 9 days for corporate taxes, 12 days for labour taxes and contributions and 13 days for consumption taxes.<sup>30</sup> That research also concluded that in relation to economic growth, it is more strongly related to decreasing the administrative burden on business than with reducing tax.<sup>31</sup> The overall research on tax compliance indicates that tax compliance costs may represent economic waste but also that when

---

<[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/285944/OTS\\_Developing\\_a\\_Tax\\_Complexity\\_Index\\_for\\_the\\_UK.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/285944/OTS_Developing_a_Tax_Complexity_Index_for_the_UK.pdf)>

<sup>25</sup> Vjekoslav Bratić and Mihaela Bronić, 'The Administrative Costs of Taxation and Customs Clearing in Croatia 1999-2001' (Occasional Paper No.24, Institute of Public Finance, 30 November 2004) <<http://www.ijf.hr/OPS/24.pdf>>.

<sup>26</sup> Tracy Oliver and Scott Bartley, 'Tax System Complexity and Compliance Costs - Some Theoretical Considerations' (2005) 3 *Economic Round-up*, 53-68. <<http://search.informit.com.au/documentSummary;dn=371069343630084;res=IELBUS>>.

<sup>27</sup> Arindam Das-Gupta, 'Economic Theory of Tax Compliance with Special Reference to Tax Compliance Costs' (Working Paper No.13, National Institute of Public Finance and Policy, March 2004) <[http://www.nipfp.org.in/working\\_paper/wp04\\_nipfp\\_013.pdf](http://www.nipfp.org.in/working_paper/wp04_nipfp_013.pdf)>.

<sup>28</sup> Jonathan Shaw, Joel Slemrod and John Whiting, 'Administration and Compliance' in Stuart Adam, Timothy Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles, and James Poterba (eds), *Dimensions of Tax Design The Mirrlees Review* (Oxford University Press, 2010) 1100-1162.

<sup>29</sup> Jason J. Fichtner and Jacob M. Feldman, *The Hidden Costs of Tax Compliance* (20 May 2013) Mercatus Research Center <[http://mercatus.org/sites/default/files/Fichtner\\_TaxCompliance\\_v3.pdf](http://mercatus.org/sites/default/files/Fichtner_TaxCompliance_v3.pdf)>.

<sup>30</sup> PricewaterhouseCoopers International Limited, *Paying Taxes 2014: The Global Picture a Comparison of Tax Systems in 189 Economies Worldwide* (2014) <<http://www.pwc.com/gx/en/paying-taxes/assets/pwc-paying-taxes-2014.pdf>>

<sup>31</sup> Jason Piper, 'Simplicity in the Tax System' (Technical Report, The Association of Chartered Certified Accountants ACCA 2013) <<http://www.accaglobal.com/content/dam/acca/global/PDF-technical/tax-publications/tech-tp-sitts.pdf>>

tax compliance costs are high, they disproportionately affect small businesses and lower-income individual taxpayers<sup>32</sup> and their compliance costs.<sup>33</sup>

#### 4. Initiatives for measuring complexity

Measuring tax complexity involves a range of difficulties<sup>34</sup> but, although it is not easy, it is possible. The lack of a definition of complexity and a measuring tool makes it very difficult to determine any progress towards simplification precisely. Detecting tax complexity provides a quantitative measurement by which different tax systems can be compared, and by which the administrative view of a specific tax system can be interpreted relative to its impacts on efficiency, equity, and revenue.<sup>35</sup>

Modern tax systems are becoming very complex. Nevertheless, there are some institutional initiatives such as the Progressive Policy Institute's State Tax Complexity Index,<sup>36</sup> the World Bank/IFC's Doing Business Project,<sup>37</sup> the OTS complexity index,<sup>38</sup> and contributions such as Tran-Nam and Evans' combination of the axiomatic and statistical approaches<sup>39</sup> and Borrego, Loo, Lopes and Ferreira's General Tax Complexity Index<sup>40</sup> related to the measurement of complexity in specific countries and around the world. These valuable studies have made important progress in improving methods of calculating complexity in order to make comparative analyses but much remains to be done.

#### 4.1 The Progressive Policy Institute (PPI)

In 2010, The President's Economic Recovery Advisory Board Report noted that the level of tax system complexity is very high. This complexity generates substantial costs for taxpayers who are affected and represents both time and money that

---

<sup>32</sup> Scott Moody, Wendy Warcholik and Scott Hodge, 'The Rising Cost of Complying with the Federal Income Tax' (Special Report No.138, Tax Foundation 2005)  
<<http://taxfoundation.org/sites/default/files/docs/sr138.pdf>>

<sup>33</sup> Chris Evans, Phil Lignier and Binh Tran-Nam, 'Tax Compliance Costs for the Small and Medium Enterprise Business Sector: Recent Evidence From Australia' (Discussion Paper No.003-13, Tax Administration Research Centre 2013)  
<[https://tarc.exeter.ac.uk/media/universityofexeter/businessschool/documents/centres/tarc/publications/discussionpapers/13\\_09\\_24\\_Evans\\_Tax\\_compliance\\_costs\\_in\\_SMEs\\_Exeter.pdf](https://tarc.exeter.ac.uk/media/universityofexeter/businessschool/documents/centres/tarc/publications/discussionpapers/13_09_24_Evans_Tax_compliance_costs_in_SMEs_Exeter.pdf)>

<sup>34</sup> Joel Slemrod, 'Which is the Simplest Tax System of Them All?' in Henry J.Aaron and William G. Gale (eds), *Economic Effects of Fundamental Tax Reform* (Brookings Institution Press: 1996) 335-391.

<sup>35</sup> Simon James, 'Simplicity? It's a Complicated Business' (online), *Tax Adviser* (11 July 2008)  
<[http://old.tax.org.uk/attach.pl/7004/8276/TA\\_July\\_2008\\_p26-p27.pdf](http://old.tax.org.uk/attach.pl/7004/8276/TA_July_2008_p26-p27.pdf)>

<sup>36</sup> Paul Weinstein, 'The State Tax Complexity Index: A New Tool for Tax Reform and Simplification' (online), (4 April 2014) *Policy Memo* <[http://www.progressivepolicy.org/wp-content/uploads/2014/04/2014.04-Weinstein\\_The-State-Tax-Complexity-Index\\_A-New-Tool-For-Tax-Reform-and-Simplification1.pdf](http://www.progressivepolicy.org/wp-content/uploads/2014/04/2014.04-Weinstein_The-State-Tax-Complexity-Index_A-New-Tool-For-Tax-Reform-and-Simplification1.pdf)>

<sup>37</sup> PwC-World Bank, 'Paying Taxes 2013: The Global Picture' (Working Paper No. 80648, World Bank, 1 January 2013) <<http://www.pwc.com/gx/en/paying-taxes/assets/pwc-paying-taxes-2013-full-report.pdf>> .

<sup>38</sup> See G. Jones, P. Rice, J. Sherwood and J. Whiting, 2014.

<sup>39</sup> Binh Tran-Nam and Chris Evans, 'Towards the Development of a Tax System Complexity Index' (2014) 35(3) *Fiscal Studies* 341-370.

<sup>40</sup> Ana Borrego, Ern Chen Loo, Cidália Lopes and Carlos Ferreira. 'Tax Professionals' Perception of Tax System Complexity: Some Preliminary Empirical Evidence From Portugal' (2015) 13(1) *Journal of Tax Research* 338-360.

taxpayers spend every year to prepare and file their taxes. It was estimated that taxpayers spend 7.6 billion hours and incur substantial expenses in meeting their federal income tax filing liabilities. These costs are approximately equal to one percent of GDP yearly (or about \$140 billion in 2008). These taxpayer's costs are also estimated at more than 12 times the IRS budget.<sup>41</sup>

The Progressive Policy Institute (PPI) reported a study ranking the tax systems of all 50 US states plus the District of Columbia -- *the State Tax Complexity Index*. The index calculates tax complexity with regard to the number of tax expenditures in the tax code for each state revenue system. In other words, PPI has prepared an index of tax complexity based on the number of tax expenditures offered by each state. Several states do not provide complete reports on tax expenditure data. These non-transparent states received the highest ranking in the survey because producing a thorough list of tax expenditures is a key first stage in reducing complexity. Several relevant conclusions were drawn from the data summarised in Table 1 below:

1. All tax systems suffer from too much complexity;
2. The type of tax structure does not define the level of complexity. Complex tax systems exist in states with progressive income taxes, states with a flat rate income tax, as well as states with no income tax. So tax complexity is everywhere in the USA.
3. Decreasing tax complexity through removing tax expenditures can finance lower tax rates and rise fairness since their benefits commonly go to higher income individuals and businesses.<sup>42</sup>

**Table 1: State Tax System Complexity Index: Complexity as Measured by Tax Expenditures**

State	Range of Tax Expenditures	Rank	State	Range of Tax Expenditures	Rank
Alabama	N/A	1	Rhode Island	200 to 250	24
Florida	N/A	1	Texas	200 to 250	24
Indiana	N/A	1	Colorado	150 to 200	29
Nevada	N/A	1	Connecticut	150 to 200	29
New Hampshire	N/A	1	Michigan	150 to 200	29
South Dakota	N/A	1	Missouri	150 to 200	29
Wyoming	N/A	1	North Dakota	150 to 200	29
Washington	550 to 600	8	South Carolina	150 to 200	29
Louisiana	450 to 500	9	Vermont	150 to 200	29
Oklahoma	450 to 500	9	Virginia	150 to 200	29
Arizona	400 to 450	11	California	100 to 150	37
New York	400 to 450	11	Hawaii	100 to 150	37
Georgia	350 to 400	13	Idaho	100 to 150	37
Oregon	350 to 400	13	Kansas	100 to 150	37
Wisconsin	350 to 400	13	Mississippi	100 to 150	37

<sup>41</sup> The President's Economic Recovery Advisory Board, *The Report on Tax Reform Options: Simplification, Compliance and Corporate Taxation* (27 August 2010) <[https://www.whitehouse.gov/sites/default/files/microsites/PERAB\\_Tax\\_Reform\\_Report.pdf](https://www.whitehouse.gov/sites/default/files/microsites/PERAB_Tax_Reform_Report.pdf)>.

<sup>42</sup> See P. Weinstein, 2014.

Maryland	300 to 350	16	Montana	100 to 150	37
Minnesota	300 to 350	16	New Mexico	100 to 150	37
Nebraska	300 to 350	16	Ohio	100 to 150	37
North Carolina	300 to 350	16	Tennessee	100 to 150	37
Iowa	250 to 300	20	Utah	100 to 150	37
Kentucky	250 to 300	20	DC	100 to 150	37
Maine	250 to 300	20	Arkansas	50 to 100	48
New Jersey	250 to 300	20	Delaware	50 to 100	48
Illinois	200 to 250	24	West Virginia	50 to 100	48
Massachusetts	200 to 250	24	Alaska	0 to 50	51
Pennsylvania	200 to 250	24			

**Key:** White: State with No Income Tax. Blue: State with Progressive Income Tax. Yellow: State with Flat Income Tax. Brown: Income Tax on Interest/Dividends.

**Source:** [http://www.progressivepolicy.org/wp-content/uploads/2014/04/2014.04-Weinstein\\_The-State-Tax-Complexity-Index\\_A-New-Tool-For-Tax-Reform-and-Simplification1.pdf](http://www.progressivepolicy.org/wp-content/uploads/2014/04/2014.04-Weinstein_The-State-Tax-Complexity-Index_A-New-Tool-For-Tax-Reform-and-Simplification1.pdf)

This index shows that there are no differences whether states depend on income or sales taxes or whether they rely on a single rate or multiple rates. All of these systems can be affected by complicated tax breaks. For instance, Kansas which has more marginal rates than the federal code and California have very progressive income-tax systems but they were ranked among the least complex tax systems in terms of special tax preferences. Meanwhile, states with no individual income tax such as Alaska, Texas, and Washington ranged all over the spectrum. Washington ranked near the top of the complexity scale, Rhode Island finished in the middle and Alaska was toward the bottom. In contrast, some states rely on a flat tax around the middle of the survey, with the exception of Utah, which tied for 37<sup>th</sup> position.<sup>43</sup>

On the basis of these findings there does not seem to be a significant link between the level of tax expenditures, the tax structure, and complexity. States which depend on flat or sales tax systems are just as likely to have high levels of complexity as those states that have progressive income tax systems.<sup>44</sup>

#### 4.2 PwC - The World Bank: Paying Tax

The PwC-the World Bank set out to calculate the level of tax complexity worldwide. The PwC Paying Taxes index, developed on behalf of the World Bank/IFC's *DoingBusiness* Project, aimed to estimate the ease of paying taxes in countries over certain periods of time. The ranking is based on taxes and compulsory contributions imposed by all levels of government which include federal, state/province or local, and especially on medium-sized companies in 189 countries around the world.<sup>45</sup> The PwC Paying Taxes ranking was calculated according to three main indicators: total tax rate, time taken to comply with tax laws (hours per year) and number of payments per year.

<sup>43</sup> Will Marshall and Paul Weinstein, 'Uncluttering State Tax Systems' on *Real Clear Policy* (15 April 2014) <[http://www.realclearpolicy.com/blog/2014/04/15/uncluttering\\_state\\_tax\\_systems\\_910.html](http://www.realclearpolicy.com/blog/2014/04/15/uncluttering_state_tax_systems_910.html)>.

<sup>44</sup> See P. Weinstein, 2014

<sup>45</sup> See PwC-The World Bank, *Paying Taxes 2014*

Taxes and contributions measured include the profit or corporate income tax, social security contributions and labour taxes paid by the employer, property taxes, property transfer taxes, dividend tax, capital gains tax, financial transactions tax, waste collection taxes, vehicle and road taxes and any other small taxes or fees. These taxes are conventionally collected by the company from the taxpayers or employees on behalf of the tax authorities. Although there is no direct effect on the income statements of the company, they add to the administrative burden of complying with the tax system and are included in the tax payments measures. Time is recorded in hours per year. The indicator measures the time taken to prepare, file and pay three major types of taxes and contributions: the corporate income tax, value added or sales tax and labour taxes, which include payroll taxes and social contributions. Payment time considers the hours required to make the payment manually at the tax authorities or online. Where taxes and contributions are paid in person, the time includes delays while waiting.<sup>46</sup> PwC's Paying Tax 2016 study included comparisons across EU countries, Australia, NZ, Turkey and the UK in terms of the hours companies took to comply with their taxes and ease of paying taxes. As can be seen from Table 2, in terms of the Ease of Taxes the UK has been ranked 15th, NZ 22nd, Australia 42nd and Turkey's position is 61st. Comparing these four countries on this basis, the UK and NZ levels score better than Australia and Turkey.

**Table 2: Paying Taxes: Overall Ranking**

Economy	Ease of Taxes Rank (in 189 economies)	Time to comply (hours)	Number of payments
Qatar	1	41	4
Switzerland	19	63	19
Saudi Arabia	3	64	3
Norway	14	83	4
Singapore	5	84	6
<i>Finland</i>	<i>17</i>	<i>93</i>	<i>8</i>
<b>Australia</b>	<b>42</b>	<b>105</b>	<b>11</b>
<b>United Kingdom</b>	<b>15</b>	<b>110</b>	<b>8</b>
<i>Sweden</i>	<i>37</i>	<i>122</i>	<i>6</i>
<i>Netherlands</i>	<i>26</i>	<i>123</i>	<i>9</i>
<i>Denmark</i>	<i>12</i>	<i>130</i>	<i>10</i>
Canada	9	131	8
<i>France</i>	<i>87</i>	<i>137</i>	<i>8</i>
<i>Cyprus</i>	<i>44</i>	<i>146</i>	<i>27</i>
<b>New Zealand</b>	<b>22</b>	<b>152</b>	<b>8</b>
<i>Spain</i>	<i>60</i>	<i>158</i>	<i>9</i>
<i>Belgium</i>	<i>90</i>	<i>161</i>	<i>11</i>
Russian Federation	47	168	7
United States	53	175	11

<sup>46</sup> PricewaterhouseCoopers International Limited, *Paying Taxes 2016* (January 2016)  
<https://www.pwc.com/gx/en/paying-taxes-2016/paying-taxes-2016.pdf>

Economy	Ease of Taxes Rank (in 189 economies)	Time to comply (hours)	Number of payments
<i>Greece</i>	66	193	8
South Africa	20	200	7
<i>Germany</i>	72	218	9
<b>Turkey</b>	<b>61</b>	<b>226</b>	<b>11</b>
Israel	103	235	33
China	132	261	9
Thailand	70	264	22
<b>Italy</b>	<b>137</b>	<b>269</b>	<b>14</b>
<i>Portugal</i>	65	275	8
Japan	121	330	14
<i>Czech Republic</i>	122	405	8
Argentina	170	405	9
<i>Bulgaria</i>	88	423	14
Venezuela, RB	188	792	70
Bolivia	189	1025	42
Brazil	178	2600	10

**Source:** PwC-World Bank Group, 'Paying Taxes 2016' <https://www.pwc.com/gx/en/paying-taxes-2016/paying-taxes-2016.pdf>

Table 2, indicates there is a considerable variation for European countries for the time involved in paying tax and the ease of paying taxes and so, potentially at least, indicates there may be room for improvement. Bulgaria has the worst ranking in terms of time (hours) and the ease of taxes among European countries. Italy is another country where there may be particular potential for improvement. Australia, Turkey and NZ levels are around the middle of rankings of European countries.

This ranking has been criticized by Evans and Tran-Nam.<sup>47</sup> Even though the PwC Paying Taxes ranking ensures an appropriate method for the international comparison, its usefulness as an index of overall tax complexity appears to be limited for a number of reasons as follows:

- The indicator of the total tax rate is calculated as a tax burden instead of tax complexity. Although there is a tendency to relate total tax rate to tax planning by businesses, PwC has not considered this argument.
- The PwC Paying Taxes ranking is restrictive since it has mainly focused on medium sized companies, in spite of the fact that most businesses worldwide are small businesses.
- The report does not adequately explain the methodology used for combining the three indicators. In the meantime, it is unclear how the three indicators are utilised in order to get the final ranking.

---

<sup>47</sup> See C. Evans and B. Tran-Nam, 2014.

- The compliance time with tax regulations and number of payments are not sufficient to include the total burden of tax compliance. An important omission is external tax advisers' costs.
- The other matter of concern is the statistical availability of the method and its results. There is little information provided in the report regarding its sampling procedure in each country.<sup>48</sup>

### 4.3 The OTS, the index, and its limitations

In the UK, the OTS was set up as an independent Office of the Treasury in 2010 to advise the Chancellor on how to achieve a simpler tax system and to provide specialist unbiased advice on possible ways of addressing existing complexity in the tax system. The objective is to reduce the burden of tax compliance on both individual taxpayers and businesses.<sup>49</sup> Originally the OTS was set up on a temporary basis but it was made permanent on 21 July 2015.

By addressing and monitoring the level of tax complexity, the OTS has taken an important step towards measuring tax simplification. The present literature indicates that not only by creating an index based on the overall complexity of a tax system at a given period is required but also that a series of such indexes to monitor the changing level of tax complexity over time are needed as well. The absence of any single measure of tax system complexity may contribute to the neglect of the concepts of tax complexity and tax simplicity.

It is significant to remember that the OTS began the Tax Complexity Project in order to calculate the level of complexity in the UK tax system. The OTS index is a relative rather than an absolute measure of complexity and its aim is to provide an indication of which areas of tax legislation are considered to be particularly complex. This task is achieved by developing a tool which can help prioritise the future work of the OTS. The first version of the index was divided into two parts. The aim of the first part was to measure *underlying complexity*, which indicates the level of intrinsic complexity related to the structure of the tax system. The second purpose was to obtain the *impact of complexity* that indicates a combination of the cost of compliance to an individual taxpayer and the aggregated cost of compliance for all taxpayers. The OTS has developed a map based more closely on the elements of the policy making process. According to the map, policy and legislation complexity increases the underlying complexity. It is worth mentioning that factors such as policy, legislation and implementation affect the impact of complexity as well as the underlying complexity.<sup>50</sup>

The OTS has pointed out that the policy process itself is of paramount importance in addressing the issues of complexity. Complexity may be reduced if some broad

---

<sup>48</sup> See C. Evans and B. Tran-Nam, 2014.

<sup>49</sup> HM Treasury. *Office of Tax Simplification Framework Document* (20 July 2010) <[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/193545/ots\\_framework\\_document\\_jul10.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/193545/ots_framework_document_jul10.pdf)>

<sup>50</sup> See G. Jones, P. Rice, J. Sherwood and J. Whiting, 2014.

guidelines are followed upon designing policy, legislation, and implementation. The OTS has put forward some general principles to minimise tax complexity in the future and has developed a second version of the Comprehensibility Index.<sup>51</sup> However, the first version of the index has some drawbacks. Since the original index aggregates the complexity factors into two sets of data through a formula, which require examining every single indicator of complexity and then producing a complexity index score out of 10. The index has faced a number of problems:

- It caused many problems when measuring the index
- The formula can produce scores above 10, which means that truncation has to be applied to the final scores
- By considering the changes in the tax system, every year to keep each of the indicators in equal value in relation to each other, the weightings would have to be re-adjusted.

The second version of the Complexity Index has used a method, namely, *feature scaling*, in order to standardize the range of variables or data. In terms of data processing, it is known as data normalization and is generally undertaken during the data pre-processing stage.<sup>52</sup> The simplest method for rescaling the range of characters is to make the features independent from each other. Selecting the target range depends on the original data with an aim to scale the range between [0, 1] or [-1, 1]. The general formula is given as:

$$Y^1 = (Y - Y^{\min}) / (Y^{\max} - Y^{\min})$$

‘Y’ is the value of the indicator for a tax measure. ‘Y<sup>min</sup>’ represents an indicator’s lowest value across all tax measures, while Y<sup>max</sup> represents the highest value. This formula will produce a score between 0 and 1. Therefore, it removes the need for truncation entirely, provides a much clearer presentation and eradicates the need to adjust the weightings every year. At the same time the formula allows us to compare the complexity of taxes across different countries, since the “Y<sup>max</sup>” is the highest number for an indicator from each country’s data and “Y<sup>min</sup>” is the lowest number. The aggregation formula is much simpler and multiplication factor is included to extend the index to give scores between 1 and 10:

$$[(Y^1 + Z^1 + \dots + n^1) / 4] * 10$$

where n<sup>1</sup> represents a normalised indicator, a score of 10 means the most complex tax possible and a score of 0 the least complex. As mentioned above, the OTS complexity index is made up of two main complexity indexes. One is the underlying complexity index, that contains policy complexity, legislative complexity, and operational

---

<sup>51</sup> Office of Tax Simplification, *The OTS Complexity Index – version 2* (8 February 2013) <[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/250995/ots\\_complexity\\_index\\_version2.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/250995/ots_complexity_index_version2.pdf)>.

<sup>52</sup> T. J. Lakshmi and A. Santhakumaran, ‘Statistical Normalization and Back Propagation for Classification’ (2011) 3(1) *International Journal of Computer Theory and Engineering* 1793-8201.

complexity. The other is the resource impact index that includes average resource cost and aggregate impact.

The gathered data should be objective in order to allow comparative analysis between different countries. However, the data of operational complexity regarding '*Readability and availability of HMRC guidance*', and '*Complexity of information requirement to make a return*' very much depend on a subjective rating. The data for '*guidance complexity*' and '*complexity of information required to make a return*' are compiled by a process of discussions between tax professionals. The tax professionals consulted were from the private sector and HMRC and have experience of a very wide range of tax and tax policy. Regrettably, there are no data and information about this part of the process on the HMRC web page. Consequently, the formula ignores the data because information gathered from this source is not objective. Hence, to receive more comparative results, the original formula is altered from  $[(Y^1 + Z^1 + \dots n^1)/6]*10$  to  $[(Y^1 + Z^1 + \dots n^1)/4]*10$ .

The OTS released the latest version of tax complexity index in June 2015, in the shape of a table.<sup>53</sup> The latest index became more complex itself. This is due to the fact that the tax system has been broken down into 111 areas, divided by different functions such as corporation tax and aggregates levy which are presented as a single table. It has to be emphasized that the index is not easy to understand and does not allow the user and researchers to develop a comparative analysis between different countries using this method.

#### 4.5 Other studies

The study carried out by Evans and Tran-Nam has made an important contribution to the research of tax simplification. In their study, the very purpose of constructing a tax system complexity index is to illustrate how the overall complexity of a particular tax system changes over a period of time. They suggested that such constructions must possess the following three main characteristics:<sup>54</sup>

- ✓ the proposed index number must cover all fundamental dimensions of tax complexity
- ✓ All data must be measured empirically with reasonable expenditure of time, effort and resources.
- ✓ It must be useful to policy makers, tax researchers and tax advisers and accepted universally by stakeholders.

They have contributed to the complexity literature and mainly focused on the construction of a tax complexity of a specific country at a particular time. Moreover, it has to be said that it was over-ambitious to put together a single index number for the entirety of a tax system. Their approach was based upon a combination of the test

---

<sup>53</sup> Office of Tax Simplification, *The OTS Complexity Index* (3 July 2015), <<https://www.gov.uk/government/publications/office-of-tax-simplification-complexity-index>>.

<sup>54</sup> See C. Evans and B. Tran-Nam, 2014.

and statistical approaches in index number theory. The proposed index possesses certain desirable properties, which limit the functional form of the index formula. The statistical method was also utilized in a manner that the index formula was derived as a measure of central tendency.

Evans and Tran-Nam have considered two indexes, one devoted to business taxpayers and the other for personal taxpayers. A combination of the test and statistical method was considered to be the most appropriate approach. However, the index designed has not been tested by the authors.

Another important study of note is *Borrego, Loo, Lopes, and Ferreira*<sup>55</sup> which produced the General Tax Complexity Index in 2015. This index combines three indexes, namely; (i) Index of Complexity of Preparation of Information and Record Keeping; (ii) Index of Complexity of Tax Forms; (iii) Legal Tax Complexity Index. This study was mainly based on empirical data collected from a survey of tax professionals in Portugal.

## 5. Testing the OTS Complexity Index for comparative analysis

As already pointed out, comparing levels of tax complexity in different countries is a difficult task as all countries have their own distinct characteristics. They may have different languages, traditions, cultures, legal systems and be at different stages of economic development. Nonetheless, comparisons between different countries could be made if at least some common features and objective data in their tax legislation and systems exist. All indicators should be objective and accessible to users and researchers and methods have to be devised to develop indicators that enable meaningful comparisons to be made. However, the first aim must be to clarify the process of measuring tax complexity.

In this present study, the OTS index is used to make comparisons between Australia, NZ, Turkey and the UK tax systems for income tax and VAT/GST. Before the comparative analysis, it is necessary to format some data to a scale of 1-5. Each of the seven criteria used in the OTS index is assigned a score out of 5. For every criterion each number from 1 to 5 represents a specific rating. For instance, for 'number of taxpayers' it defines 1 as a tax that impacts on less than 10,000 taxpayers; 2 affects 10,000 to 100,000 taxpayers; and it continues up to 5, which impacts on 10 million and above taxpayers (for example, VAT and income tax).<sup>56</sup>

Comparative data for the four countries were collected from the Australian Government official website, New Zealand Government and Treasury, the Turkish Ministry of Finance and HM Revenue and Customs (HMRC) in the UK. Only the income taxpayers' numbers of 19 million in Turkey<sup>57</sup> were gathered from different

---

<sup>55</sup> See A. Borrego, E.C. Loo, C. Lopes and C. Ferreira, 2015.

<sup>56</sup> Office of Tax Simplification, *The OTS Complexity Index* (3 September 2011) <[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/193493/ots\\_complexity\\_index\\_methodology\\_paper.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/193493/ots_complexity_index_methodology_paper.pdf)>.

<sup>57</sup> Sukru Kizilot, 'Neden 50 Milyon Secmene Karsilik 1.7 Milyon Vergi Mukellefi Var?', *Hurriyet Gazetesi* (online), 27 October 2013 <http://www.hurriyet.com.tr/neden-50-milyon-secmene-karsilik-1-7-milyon-vergi-mukellefi-var-24994293>>.

sources. Using the OTS methodology, the data from Australia, NZ, Turkey, and the UK were gathered and are presented at the end of this study.

In addition, the `administrative costs for tax administration/net revenue collected` has been considered. This is not collected separately from taxes such as income tax and VAT/GST. However, the `*Ratio of aggregate tax administration costs per 100 units of net revenue collection*` is available from the OECD database<sup>58</sup> and can be used instead of `*administrative costs for tax administration/net revenue collected*` and the general aggregated data will be used for all taxes. This data is given by the OECD database as one set of data for all taxes for each country, according to which Turkey's score is 0.64; whereas the UK has 0.73, NZ has 0.85, and Australia has 0.93.

## 6.1 The results with respect to the taxes

Although, as summarised above, there are limitations to using a tax complexity index for comparative analysis, the results are of considerable interest and indicate areas where there may be the greatest potential for reducing complexity.

### 6.1.1 Income Tax

Starting with the underlying complexity index, the income tax in Turkey has the best score for the level of policy complexity - 1.68 as shown in Table 11. The worst scores for the four countries are Australia with 5.97 (Table 13) and the UK with 5.92 (Table 12). NZ has a score of 3.23 in underlying complexity index for income tax (Table 14).

Interestingly, although Table 5 shows Australia has a high figure for *changes to legislation* for income tax (3,972) and *pages of legislation* (4,849), but its position is in the top level (5.97). Regarding the *Gunning-Fog readability index* - all the countries' tax codes are not understood easily- the UK has the best score that is 16.9, whereas Turkey has the worst score of 20.1 though the scores for Australia and NZ are not much better (Tables 3-6) that is only. NZ has the lowest scores in *numbers of exemptions plus the number of reliefs* (37) and *changes to legislation* (51). According to the Table 11-13, Turkey's legislative complexity of 1.43 is much better than Australia (3.07), NZ (3.04), and the UK (2.5). According to the tables the numbers of exemptions plus the number of reliefs in the UK income tax are five times more than Turkey and Australia' income tax, whereas, seven times more than NZ - the UK has 291 exemptions plus reliefs (Table 4), Turkey has 58 (Table 3), Australia has 60 (Table 5), and NZ has only 37 (Table 6).

However, Turkey and NZ have nearly the same scores for income tax policy complexity, where Turkey has 0.43 and NZ has 0.19. While the UK has 3.42 and Australia has 2.9. At the same time, Australia's income tax policy complexity score is 2.9 which is lower than the UK's rate of 3.42. But interestingly, legislative changes

---

<sup>58</sup> OECD, Tax Administration 2015: Comparative Information on OECD and Other Advanced and Emerging Economies OECD Publications, Paris. [https://dx.doi.org/10.1787/tax\\_admin-2015-en](https://dx.doi.org/10.1787/tax_admin-2015-en). p.181

have affected 3972 times in Australia, whereas the UK's legislative changes have been affected 1500 times. In terms of policy complexity for income tax, the best scores belong to NZ (0.19) and Turkey (0.43).

Legislative complexity gives different pictures between the four countries. All countries' data are ranked between 1.43 and 3.07. Turkey's income tax has the lowest score of 1.43, due to the fact of the pages of legislation of numbering 101, meanwhile Australia and NZ has the highest scores because of 4849 pages (Australia) and 3218 pages (NZ) in income tax codes. But at the same time, Turkey's high data is related to the Gunning-Fog readability index. Turkey income tax has 20.1 that is the highest score among the other selected countries.

As for the resource impact index which is combined by administration costs for tax administration/ net revenue collected, number of taxpayers, average ability of taxpayers, and avoidance risk, the best score 3.65 that belongs to the UK, whereas the worst data that is 8.9 is related to Turkey. It can be said that Turkey implementation is much worse than other countries, but interestingly, *the ratio of aggregate tax administration costs per 100 units of net revenue collection* of Turkey is 0.64 (Table 3) which is the lowest rate between the countries.

Turning now to the resource impact index, according to `the ratio of aggregate tax administration costs per 100 units of net revenue collection` which represents the average resource cost, Turkey's average resource cost score is 1.6 (Table 11), while the UK's score is 1.85; NZ's score is 2.12; and Australia's score is 2.35. However, when other factors are taken into account the scores for the aggregate impact index is in the UK at 1.8, NZ at 2.5, Australia at 4.58, and Turkey at 7.5.

In terms of the total impact complexity the best score (6.22) belongs to NZ, whereas Turkey's score is 6.94 is the worst one.

In terms of the total underlying complexity and resource impact complexity of income tax, Turkey has the best score of 1.68 in 'underlying complexity index' (Table 11), while the UK has best score of 3.65 in "resource impact complexity" (Table 12). In other words, Turkey is efficient at policy and legislative complexity, The UK is good at implementation.

### **6.1.3 Value Added Tax (VAT) - Goods and Services Tax (GST)**

Turkey's VAT policy complexity rate is 0.1 which is the lowest score between other countries. In this point, the highest rate that is 2.72 belongs to the UK which has slightly more complex system than Australia which has 2.61, and NZ which has 2.5 with regard to VAT policy complexity. Although there is only a small gap between Australia, NZ, and the UK with respect to VAT policy complexity, there have been considerable differences regarding changes to VAT legislations for the last 14 years. In the UK, VAT has been changed 854 times, representing *around 61 changes per year*, while NZ's GST code has been changed 52 times in the same period. When it comes to the number of exemptions plus reliefs, NZ at 58, Australia at 28, the UK is ranked 20 close to Turkey at 16.

For the legislative complexity of VAT, the UK's index is 1.12 that is the lowest in the table, whereas the Australian index is 4.53 that is the worst rate. Meanwhile, Turkey's score is 2.5 that is just below the NZ of 2.68.

In relation to the other taxes the number of standardised pages of legislation for VAT is the lowest in Turkey at 33 compared with Australia at 617 that is the highest number of pages, the UK at 298, and NZ at 237 pages. Even so, the legislative complexity index for Turkey is higher than for the UK. This result is related to the readability index and Turkey's readability score of VAT was calculated as 26, which is more than double the score of the UK at 12.6. In comparison with readability score of Australia and NZ, tables 5 and 6 show that the rates of Australia (23.4) and NZ (22.2) are rather close to each other. In other words, only the UK's VAT legislation's is ranked in medium level for readability, whereas other countries' VAT legislations are not easy to understand.

To sum up in relation to the VAT, the underlying complexity of Turkey is 2.6 which is the best score in comparison to Australia at 7.14 which is the worst score, NZ at 5.78, and the UK at 3.84. At the same time, the resource impact index of VAT for Turkey is 4.51 which is the highest score, whereas the figure for NZ (2.95), the UK (2.68), and Australia (2.35) are rather close to each other. So it can be said that VAT in Turkey is relatively more complex than other selected countries.

#### **6.1.5 The Cumulative complexity for the taxes**

In this final stage, the aggregation formula  $[(Y^1 + Z^1 + \dots + n^1)/6] * 10$  is used to assess the combined complexity of all the taxes examined in terms of a range of possible scores from 1 (least complex) up to 10 (most complex). According to the total underlying complexity, there is an important difference between the four countries.

Australia's score is 8.74 which is the higher than the UK's score of 7.08, NZ's score of 5.61, and Turkey' score of 2.98 which is the lowest rate. It is clear that Australia, NZ, and the UK have high levels of total underlying complexity in selected taxes.

For the total impact of complexity the score for the countries considered is so close to each other. NZ is 6.22, Australia is 6.38, the UK is 6.66, and Turkey is 6.94. These rates indicate that all the countries have high levels of total impact complexity. In terms of both total underlying complexity and the total impact of complexity there is significant potential for simplification in the tax systems of Australia, NZ, the UK, and Turkey.

### **7. Conclusion and proposals**

As noted above, in spite of substantial benefits in simplifying a tax system, in order to achieve that a variety of important factors have to be considered. For a tax system to function successfully, tax systems have to strike a balance between reasonable levels of efficiency and fairness as well as an acceptable level of certainty. A failure to consider this properly helps to explain the very limited success in initiatives in such countries as Australia, NZ and the UK.

The 1990s, especially in Common Law countries, heralded a time of increasing recognition of tax systems' complexity and the need for simplification. As a result, Australia, NZ and the UK all implemented major projects for rewriting their tax legislation, each with their own particular approach. All these simplification initiatives took much longer than was planned. In contrast, Turkey, did not have and still has not got a specific project or an office specifically concerned with tax simplification. Nevertheless, in Turkey, the tax authority has declared that the tax system is very complex and there have recently been initiatives for rewriting income tax and procedural tax law in Turkey.

Measuring tax complexity is not easy and there are aspects where it is very difficult indeed. Comparative analysis between different countries is even harder. Every country has its own methods of measuring tax complexity at least partly because of differences in culture and other factors. Furthermore, countries have different methods of compiling their data which are not necessarily objective. Nonetheless, in spite of all these difficulties the current study has endeavoured to compare the levels of tax complexity in Australia, NZ, Turkey, and the UK and the exercise has reached some interesting conclusions.

The four countries have some striking differences in terms of complexity. *The number of exemptions and reliefs* in the two taxes examined, namely VAT and income tax, in Turkey are 16 and 58 but in the UK 20 and 291, in Australia 28 and 60, and in NZ are 58 and 37. At the same time, *the effect of the number of changes* to the relevant legislation in relation to VAT and income tax in Turkey is 91 and 146 but in the UK is 854 and 1500, in Australia is 665 and 3972, and in NZ is 52 and 51.

For total underlying complexity, on these measures the Turkish taxes were less complex than their Australia, NZ, and UK equivalents. It may be that the effects of changes to tax legislation and pages of legislation in Australia may be justified in terms of other relevant factors in Australia and this comparison highlights that these factors have a role in tax simplification.

In terms of the ratio of `aggregate tax administration costs per 100 units of net revenue collection`, a ratio of 0.64 for Turkey compares favourably with a ratio of 0.94 for Australia, 0.85 for NZ, and 0.74 for the UK. NZ did slightly better in terms of the total impact of complexity with a score of 6.22 for the two taxes compared to figures of the other countries. Overall, the application of the OTS Complexity Index to a comparison between Australia, NZ, Turkey and the UK indicates that Turkey scores better in terms of policy and legislative complexity, whereas the UK does better in terms of implementation. In the four countries, the income tax is easily the more complex tax than VAT/GST and therefore may have the most potential for simplification measures.

There are limitations to using the OTS tax complexity index to obtain more objective results. First, not all of the data are transparently objective, including `Readability and availability of HMRC guidance` and `Complexity of information requirement to make a return` since this information is gathered through discussion and consensus between

some selected tax professionals. Second, there is also some uncertainty about *ability of taxpayers*. There are only rates in the relevant HMRC web page and there may be important further information about how the figures were derived which is not in the public domain. Third, the number of the *changes to legislation* does not reflect complexity every time. Hence this varies from number of the *changes to legislation* to number of *the effects of legislation amendments*. Fourth, all standardized figures have changed depending on the number of taxes analysed. So if other studies examine more than two taxes for comparison between selected countries, the results might be different. Fifth, a readability index is important for measuring complexity. But there is no fundamental reason why *the Gunning-Fog readability index* has been used by the OTS. It may investigate new readability indexes for applying to legislation in different languages. Finally, it is not possible to find the rate of *the administrative costs for tax administration/net revenue collected* for all taxes separately in countries; this rate should be modified for all taxes and all countries. *Ratio of aggregate tax administration costs per 100 units of net revenue collection* comes from the OECD database and was used instead of *administrative costs for tax administration/net revenue collected*. However, it is not an entirely suitable source of data for the present purpose.

Nonetheless, there are also some good reasons for using the OTS index, not least because some of the required data that is already available is fairly objective. Firstly, *pages of legislation* have been calculated from the legislative web page as format of pdf file. The majority of the countries use the same or similar font size and paper size. Secondly, the rate of *avoidance risk* is based on tax revenue, like the *rate of number of taxpayers* is derived from the number of taxpayers.

The analysis above suggests that the Complexity Index can be utilized to produce useful international comparisons but it would be even better if all indicators were clear and objective. It should be noted that OTS did not produce a complexity index to make international comparisons. But there is a vital requirement for an effective complexity index to be used in international comparisons between the countries under consideration. This index may have been produced by the OTS with another aim in mind but, with the tangible experience of the OTS in this field, it is argued that the index may be considered as a milestone in terms of tax simplification in different countries.

As far as a government is concerned, simplifying the tax system is not its sole priority and there are trade-offs to be made between tax simplification, fairness and other priorities in a complex and changing socioeconomic environment. The question that arises is how to achieve an acceptable level of simplification considering all the other related factors. The advancement in technology has contributed to the development of pre-filled tax returns and other means of assistance for taxpayers to help them with the long and complex tax codes.

To achieve an acceptable level of tax simplification and tax reform across all taxes, a more systematic and strategic process must be applied and undoubtedly a crucial

factor in achieving a strategy is implementation. A comprehensive method requires an interactive process which plays a vital role with constant feedback between thought and action and understanding that successful strategies are born out of experience. The comprehensive tax simplification process may be summed up in four main areas;<sup>59</sup>

- To take into account the importance of different aims of tax policy.
- Simplification has to be incorporated into the tax policy process itself.
- Develop a 'simplification culture'.
- To create a system of constant monitoring and reviewing process.

As this paper has argued, tax simplification is not the sole priority of a government and other aims may change over time so the process of simplification must be consistently implemented and monitored. Creating a simplification culture is at the heart of this process which inevitably encourages progress and brings considerable benefit to the wider public. Finally, it is obvious that there is a need for fundamental changes in tax simplification culture.

---

<sup>59</sup> S. James and I. Wallschutzky, 1997.

## 8. Annex

**Table 3: Turkey Data (2014)**

Taxes	Underlying Complexity Index				Resource Impact Index			
	Policy Complexity		Legislative Complexity		Average resource cost	Aggregate impact		
	<i>Numbers of exemptions plus the number of reliefs</i>	<i>Changes to legislation: (since 2000)</i>	<i>Gunning-Fog readability index</i>	<i>Pages of legislation</i>	<i>Ratio of aggregate tax administration costs per 100 units of net revenue collection</i>	<i>Number of taxpayers</i>	<i>Average ability of taxpayers</i>	<i>Avoidance risk</i>
<b>Income Tax</b>	58	146	20.1	101	0.64	5	5	5
<b>VAT</b>	16	91	26	33	0.64	4	4	4

**Table 4: The UK Data (2014)**

Taxes	Underlying Complexity Index				Resource Impact Index			
	Policy Complexity		Legislative Complexity		Average resource cost	Aggregate impact		
	<i>Numbers of exemptions plus the number of reliefs</i>	<i>Changes to legislation: (since 2000)</i>	<i>Gunning-Fog readability index</i>	<i>Pages of legislation</i>	<i>Ratio of aggregate tax adm. costs per 100 units of net revenue collection</i>	<i>Number of taxpayers</i>	<i>Average ability of taxpayers</i>	<i>Avoidance risk</i>
<b>Income Tax</b>	291	1500	16.9	694	0.74	5	5	5
<b>VAT</b>	20	854	12.1	298	0.74	3	4	3

**Table 5: Australia Data (2014)**

Taxes	Underlying Complexity Index				Resource Impact Index			
	Policy Complexity		Legislative Complexity		Average resource cost	Aggregate impact		
	<i>Numbers of exemptions plus the number of reliefs</i>	<i>Changes to legislation: (since 2000)</i>	<i>Gunning-Fog readability index</i>	<i>Pages of legislation</i>	<i>Ratio of aggregate tax administration costs per 100 units of net revenue collection</i>	<i>Number of taxpayers</i>	<i>Average ability of taxpayers</i>	<i>Avoidance risk</i>
<b>Income Tax</b>	60	3972	19.4	4849	0.94	5	5	3
<b>VAT (GST)</b>	28	665	23.4	617	0.94	3	4	2

**Table 6: New Zealand Data (2014)**

Taxes	Underlying Complexity Index				Resource Impact Index			
	Policy Complexity		Legislative Complexity		Average resource cost	Aggregate impact		
	<i>Numbers of exemptions plus the number of reliefs</i>	<i>Changes to legislation: (since 2000)</i>	<i>Gunning-Fog readability index</i>	<i>Pages of legislation</i>	<i>Ratio of aggregate tax administration costs per 100 units of net revenue collection</i>	<i>Number of taxpayers</i>	<i>Average ability of taxpayers</i>	<i>Avoidance risk</i>
<b>Income Tax</b>	37	51	19.7	3218	0.85	4	5	2
<b>VAT (GST)</b>	58	52	22.2	237	0.85	3	4	2

In this step, it can apply the standardisation formula of  $Y1 = (Y - Y^{\min}) / (Y^{\max} - Y^{\min})$  to scales each of the countries' indicators into a number between 0 and 1. Those indicators are below:

**Table 7: Standardized Indicators for Turkey**

Taxes	Underlying Complexity Index				Resource Impact Index			
	Policy Complexity		Legislative Complexity		Average resource cost	Aggregate impact		
	<i>Numbers of exemptions plus the number of reliefs</i>	<i>Changes to legislation (since 2000)</i>	<i>The Gunning-Fog readability index</i>	<i>Pages of legislation</i>	<i>Adm. costs for tax administration/net revenue collected</i>	<i>Number of taxpayers</i>	<i>Average ability of taxpayers</i>	<i>Avoidance risk</i>
<b>Income Tax</b>	Y <sup>1</sup> = 0.152	Y <sup>2</sup> = 0.023	Y <sup>3</sup> = 0.575	Y <sup>4</sup> = 0	Y <sup>5</sup> = 0	Y <sup>6</sup> = 1	Y <sup>7</sup> = 1	Y <sup>8</sup> = 1
<b>VAT</b>	Z <sup>1</sup> = 0	Z <sup>2</sup> = 0.04	Z <sup>3</sup> = 1	Z <sup>4</sup> = 0	Z <sup>5</sup> = 0	Z <sup>6</sup> = 0.5	Z <sup>7</sup> = 0	Z <sup>8</sup> = 0.666

**Table 8: Standardized Indicators for the UK**

Taxes	Underlying Complexity Index				Resource Impact Index			
	Policy Complexity		Legislative Complexity		Average resource cost	Aggregate impact		
	<i>Numbers of exemptions plus the number of reliefs</i>	<i>Changes to legislation: (since 2000)</i>	<i>The Gunning-Fog readability index</i>	<i>Pages of legislation</i>	<i>Administrative costs for tax administration/net revenue collected</i>	<i>Number of taxpayers</i>	<i>Average ability of taxpayers</i>	<i>Avoidance risk</i>
<b>Income Tax</b>	Y <sup>1</sup> = 1	<b>Y<sup>2</sup> = 0.369</b>	Y <sup>3</sup> = 0	Y <sup>4</sup> = 1	Y <sup>5</sup> = 0.333	Y <sup>6</sup> = 1	Y <sup>7</sup> = 1	Y <sup>8</sup> = 1
<b>VAT</b>	Z <sup>1</sup> = 0.09	Z <sup>2</sup> = 1	Z <sup>3</sup> = 0	Z <sup>4</sup> = 0.45	Z <sup>5</sup> = 0.333	Z <sup>6</sup> = 0	Z <sup>7</sup> = 0	Z <sup>8</sup> = 0.333

**Table 9: Standardized Indicators for Australia**

Taxes	Underlying Complexity Index				Resource Impact Index			
	Policy Complexity		Legislative Complexity		Average resource cost	Aggregate impact		
	<i>Numbers of exemptions plus the number of reliefs</i>	<i>Changes to legislation: (since 2000)</i>	<i>The Gunning-Fog readability index</i>	<i>Pages of legislation</i>	<i>Adm. costs for tax administration/net revenue collected</i>	<i>Number of taxpayers</i>	<i>Average ability of taxpayers</i>	<i>Avoidance risk</i>
<b>Income Tax</b>	Y <sup>1</sup> =0,16	Y <sup>2</sup> = 1	Y <sup>3</sup> = 0.274	Y <sup>4</sup> = 0.954	Y <sup>5</sup> = 1	Y <sup>6</sup> = 0.5	Y <sup>7</sup> = 1	Y <sup>8</sup> = 0.333
<b>VAT (GST)</b>	Z <sup>1</sup> = 0.285	Z <sup>2</sup> = 0.76	Z <sup>3</sup> = 0.812	Z <sup>4</sup> = 1	Z <sup>5</sup> = 1	Z <sup>6</sup> =0.	Z <sup>7</sup> = 0	Z <sup>8</sup> = 0

**Table 10: Standardized Indicators for New Zealand**

Taxes	Underlying Complexity Index				Resource Impact Index			
	Policy Complexity		Legislative Complexity		Average resource cost	Aggregate impact		
	<i>Numbers of exemptions plus the number of reliefs</i>	<i>Changes to legislation: (since 2000)</i>	<i>The Gunning-Fog readability index</i>	<i>Pages of legislation</i>	<i>Adm. costs for tax administration/net revenue collected</i>	<i>Number of taxpayers</i>	<i>Average ability of taxpayers</i>	<i>Avoidance risk</i>
<b>Income Tax</b>	Y <sup>1</sup> =0.076	Y <sup>2</sup> = 0	Y <sup>3</sup> = 0.546	Y <sup>4</sup> = 0.670	Y <sup>5</sup> = 0.7	Y <sup>6</sup> = 1	Y <sup>7</sup> = 1	Y <sup>8</sup> = 0
<b>VAT (GST)</b>	Z <sup>1</sup> = 1	Z <sup>2</sup> = 0	Z <sup>3</sup> = 0.726	Z <sup>4</sup> = 0.349	Z <sup>5</sup> = 0.7	Z <sup>6</sup> =0.333	Z <sup>7</sup> = 0	Z <sup>8</sup> = 0

In this step, applying the aggregation formula  $[(Y^1 + Z^1 + \dots + n^1)/4]*10$  to find index for each taxes to give us scores between 1 and 10.

**Table 11: Indexes for Turkey**

		Income Tax	VAT	Total Underlying Complexity <sup>1</sup>
1- Numbers of exemptions plus the number of reliefs 2- The number of Finance Acts with changes to the area (since 2000)	Policy Complexity	0.43	0.1	2.98
3- The Gunning-Fog readability index 4- Number of pages of legislation	Legislative Complexity	1.43	2.5	
<b>Underlying Complexity Index</b>		1.68	2.6	<b>Total Impact of Complexity</b>
5- Adm. costs for tax administration/ net revenue collected	Average resource cost	1.6	1.6	6.94
6- Number of taxpayers 7- Average ability of taxpayers 8- Avoidance risk	Aggregate impact	7.5	2.91	
<b>Resource Impact Index</b>		8.9	4.51	

**Table 12: Indexes for the UK**

		Income Tax	VAT	Total Underlying Complexity
1- Numbers of exemptions plus the number of reliefs 2- The number of Finance Acts with changes to the area (since 2000)	Policy Complexity	3.42	2.72	7.08
3- The Gunning-Fog readability index 4- Number of pages of legislation	Legislative Complexity	2.5	1.125	
<b>Underlying Complexity Index</b>		5.92	3.84	<b>Total Impact of Complexity</b>
5- Adm. costs for tax administration/net revenue collected	Average resource cost	1.85	1.85	6.66
6- Number of taxpayers 7- Average ability of taxpayers 8- Avoidance risk	Aggregate impact	1.8	0.83	
<b>Resource Impact Index</b>		3.65	2.68	

<sup>1</sup> The aggregation formula  $[(Y^1 + Z^1 + \dots + n^1)/6]*10$  to find index for total taxes scores between 1 and 10.

**Table 13: Indexes for Australia**

		Income Tax	GST	Total Underlying Complexity
1- Numbers of exemptions plus the number of reliefs 2- The number of Finance Acts with changes to the area (since 2000)	Policy Complexity	2.9	2.61	8.74
3- The Gunning-Fog readability index 4- Number of pages of legislation	Legislative Complexity	3.07	4.53	
<b>Underlying Complexity Index</b>		5.97	7.14	<b>Total Impact of Complexity</b>
5- Adm. costs for tax administration/net revenue collected	Average resource cost	2.35	2.35	6.38
6- Number of taxpayers 7- Average ability of taxpayers 8- Avoidance risk	Aggregate impact	4.58	0	
<b>Resource Impact Index</b>		6.93	2.35	

**Table 14: Indexes for New Zealand**

		Income Tax	GST	Total Underlying Complexity
1- Numbers of exemptions plus the number of reliefs 2- The number of Finance Acts with changes to the area (since 2000)	Policy Complexity	0.19	2.5	5.61
3- The Gunning-Fog readability index 4- Number of pages of legislation	Legislative Complexity	3.04	2.68	
<b>Underlying Complexity Index</b>		3.23	5.18	<b>Total Impact of Complexity</b>
5- Adm. costs for tax administration/net revenue collected	Average resource cost	2.12	2.12	6,22
6- Number of taxpayers 7- Average ability of taxpayers 8- Avoidance risk	Aggregate impact	2.5	0.83	
<b>Resource Impact Index</b>		4.62	2.95	

## 9. Bibliography

- Bartelsman E, Scarpetta S, and Schivardi F (2003), 'Comparative Analysis of Firm Demographics and Survival: Micro-Level Evidence for the OECD Countries' (Working Paper No.348, OECD 2003) <[http://www.oecd-ilibrary.org/economics/comparative-analysis-of-firm-demographics-and-survival\\_010021066480](http://www.oecd-ilibrary.org/economics/comparative-analysis-of-firm-demographics-and-survival_010021066480)>
- Beadle S, and Scott D (2014), 'Languages in Education and Training: Final Country Comparative Analysis' (Report No. J9241, European Commission 2014) <[http://ec.europa.eu/languages/library/studies/lang-eat\\_en.pdf](http://ec.europa.eu/languages/library/studies/lang-eat_en.pdf)>
- Borrego A, Loo, E.C., Lopes, C. and Ferreira, C (2015), 'Tax Professionals' Perception of Tax System Complexity: Some Preliminary Empirical Evidence from Portugal', *eJournal of Tax Research*, 13(1): 338-360.
- Bratić V and Bronić M (2004), 'The Administrative Costs of Taxation and Customs Clearing in Croatia 1999-2001' (Occasional Paper No.24, Institute of Public Finance) <<http://www.ijf.hr/OPS/24.pdf>>.
- Chang T, Chen W, Gupta R, and Nguyen D. K (2015), 'Are stock prices related to the political uncertainty index in OECD countries? Evidence from the bootstrap panel causality test' *Economic Systems* 39(2) 288–300. <<http://www.sciencedirect.com/science/article/pii/S0939362515000229>>
- Cooper S. G (1993), 'Themes and Issues in Tax Simplification', *Australian Tax Forum*, 10(4): 417–460.
- Das-Gupta A (2004), 'Economic Theory of Tax Compliance with Special Reference to Tax Compliance Costs' (Working Paper No.13, National Institute of Public Finance and Policy) <[http://www.nipfp.org.in/working\\_paper/wp04\\_nipfp\\_013.pdf](http://www.nipfp.org.in/working_paper/wp04_nipfp_013.pdf)>.
- Edwards S (1996), 'Why are Saving Rates so Different Across Countries?: An International Comparative Analysis', *Journal of Development Economics*, 51(1): 5-44.
- Evans C and Tran-Nam B (2012), 'Managing Tax System Complexity: Building Bridges Through Pre-Filled Tax Returns', *Australian Tax Forum*, 25: 247-276.
- Evans C, Lignier P and Tran-Nam B (2013), 'Tax Compliance Costs for the Small and Medium Enterprise Business Sector: Recent Evidence From Australia' (Discussion Paper No.003-13, Tax Administration Research Centre) <[https://tarc.exeter.ac.uk/media/universityofexeter/businessschool/documents/centres/tarc/publications/discussionpapers/13\\_09\\_24\\_Evans\\_Tax\\_compliance\\_costs\\_in\\_SMEs\\_Exeter.pdf](https://tarc.exeter.ac.uk/media/universityofexeter/businessschool/documents/centres/tarc/publications/discussionpapers/13_09_24_Evans_Tax_compliance_costs_in_SMEs_Exeter.pdf)>
- Fichtner J. J and Feldman M. J (2013), *The Hidden Costs of Tax Compliance* Mercatus Research Center <[http://mercatus.org/sites/default/files/Fichtner\\_TaxCompliance\\_v3.pdf](http://mercatus.org/sites/default/files/Fichtner_TaxCompliance_v3.pdf)>.

- Gale W (2001), 'Tax Simplification: Issues and Options', *Tax Notes*, 92(11): 1463-1481.
- HM Treasury (2010), *Office of Tax Simplification Framework Document* <[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/193545/ots\\_framework\\_document\\_jul10.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/193545/ots_framework_document_jul10.pdf)>
- James S and Wallschutzky I (1997), 'Tax Law Improvement in Australia and the UK: The Need for a Strategy for Simplification', *Fiscal Studies*, 18(4): 445–460.
- James S (2008), 'Simplicity? It's a Complicated Business' (online), *Tax Adviser* <[http://old.tax.org.uk/attach.pl/7004/8276/TA\\_July\\_2008\\_p26-p27.pdf](http://old.tax.org.uk/attach.pl/7004/8276/TA_July_2008_p26-p27.pdf)>
- James S. S (2009), *A Handbook for Tax Simplification* <[http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/01/06/000334955\\_20110106032224/Rendered/PDF/588150WP0FIAS110BOX353820B01PUBLI C1.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/01/06/000334955_20110106032224/Rendered/PDF/588150WP0FIAS110BOX353820B01PUBLI C1.pdf)>
- Jones G, Rice P, Sherwood J, and Whiting J (2014), *Developing a Tax Complexity Index for the UK* Office of Tax Simplification <[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/285944/OTS\\_Developing\\_a\\_Tax\\_Complexity\\_Index\\_for\\_the\\_UK.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/285944/OTS_Developing_a_Tax_Complexity_Index_for_the_UK.pdf)>
- Kizilot S (2013), 'Neden 50 Milyon Secmene Karsilik 1.7 Milyon Vergi Mukellefi Var?', *Hurriyet Gazetesi* (online), <http://www.hurriyet.com.tr/neden-50-milyon-secmene-karsilik-1-7-milyon-vergi-mukellefi-var-24994293>>.
- Lakshmi T. J and Santhakumaran A (2011), 'Statistical Normalization and Back Propagation for Classification', *International Journal of Computer Theory and Engineering*, 3(1): 1793-8201.
- Mackenbach J. P, and McKee M (2013), 'A comparative analysis of health policy performance in 43 European countries', *European Journal of Public Health*, 23(2): 195–344.
- Marshall W and Weinstein P (2014), 'Uncluttering State Tax Systems' on *Real Clear Policy* <[http://www.realclearpolicy.com/blog/2014/04/15/uncluttering\\_state\\_tax\\_systems\\_910.html](http://www.realclearpolicy.com/blog/2014/04/15/uncluttering_state_tax_systems_910.html)>.
- McCaffery J. E (1990), 'The Holy Grail of Tax Simplification', *Wisconsin Law Review*, 5: 1267–1322.
- Mendoza G. E, Razin A, and Tesar L. L (1993), 'A Comparative Analysis of the Structure of Tax Systems in Industrial Countries' (Working Paper No. WP/39/14, International Monetary Fund 1993)
- Moody S, Warcholik W and Hodge S (2005), 'The Rising Cost of Complying with the Federal Income Tax' (Special Report No.138, Tax Foundation ) <<http://taxfoundation.org/sites/default/files/docs/sr138.pdf>>

Morris D (2012), *Tax Cheating: Illegal--But Is It Immoral?* (Albany: State University of New York Press)

Nicholson M (2006), *Keep it Simple: Proposals to Reduce the Complexity of the UK Tax System* The Bow Group

<<http://www.bowgroup.org/sites/bowgroup.uat.pleasetest.co.uk/files/Keep%2520It%2520Simple.pdf>>.

Office of Tax Simplification (2011), *The OTS Complexity Index*

<[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/193493/ots\\_complexity\\_index\\_methodology\\_paper.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/193493/ots_complexity_index_methodology_paper.pdf)>.

Office of Tax Simplification (2013), *The OTS Complexity Index – version 2*

<[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/250995/ots\\_complexity\\_index\\_version2.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/250995/ots_complexity_index_version2.pdf)>.

Office of Tax Simplification (2015), *The OTS Complexity Index*

<<https://www.gov.uk/government/publications/office-of-tax-simplification-complexity-index>>.

Oliver T and Bartley S (2005), ‘Tax System Complexity and Compliance Costs - Some Theoretical Considerations’, *Economic Round-up*, 3: 53-68.

<<http://search.informit.com.au/documentSummary;dn=371069343630084;res=IELBUS>>

Organisation for Economic Co-operation and Development (2006), *Fundamental Reform of Personal Income Tax*

<<http://browse.oecdbookshop.org/oecd/pdfs/product/2306081e.pdf>>.

Organisation for Economic Co-operation and Development (2006), *Financing Democracy: Funding of Political Parties and Election Campaigns and the Risk of Policy Capture* (Paris: OECD Publishing)

Organisation for Economic Co-operation and Development (2015), *Tax Administration 2015: Comparative Information on OECD and Other Advanced and Emerging Economies* (Paris: OECD Publishing).

Piper J (2013), ‘Simplicity in the Tax System’ (Technical Report, The Association of Chartered Certified Accountants ACCA)

<<http://www.accaglobal.com/content/dam/acca/global/PDF-technical/tax-publications/tech-tp-sitts.pdf>>

PricewaterhouseCoopers International Limited (2014), *Paying Taxes 2014: The Global Picture a Comparison of Tax Systems in 189 Economies Worldwide*

<<http://www.pwc.com/gx/en/paying-taxes/assets/pwc-paying-taxes-2014.pdf>>

PricewaterhouseCoopers International Limited (2016), *Paying Taxes 2016: The Global Picture a Comparison of Tax Systems in 189 Economies Worldwide*

<<http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Special-Reports/Paying-Taxes-2016.pdf>>

PricewaterhouseCoopers International Limited (2016), *Paying Taxes 2016*  
<<https://www.pwc.com/gx/en/paying-taxes-2016/paying-taxes-2016.pdf>>

PricewaterhouseCoopers International Limited (2013), 'Paying Taxes 2013: The Global Picture' (Working Paper No. 80648, World Bank,  
<<http://www.pwc.com/gx/en/paying-taxes/assets/pwc-paying-taxes-2013-full-report.pdf>>.

Shaw J, Slemrod J and Whiting J (2010), 'Administration and Compliance' in Adam S, Besley T, Blundell R, Bond S, Chote R, Gammie M, Johnson P, Myles G, and Poterba J (eds), *Dimensions of Tax Design The Mirrlees Review* (Oxford University Press) 1100-1162.

Slemrod J (1989), 'Complexity, Compliance Costs, and Tax Evasion' in Jeffrey Roth and John Scholz (eds), *Taxpayer Compliance: Social Science Perspectives* (University of Pennsylvania Press) 156-181.

Slemrod J (2006), 'Which is the Simplest Tax System of Them All?' in Aaron J. H and Gale G. W (eds), *Economic Effects of Fundamental Tax Reform* (Brookings Institution Press) 335-391.

The President's Economic Recovery Advisory Board (2010), *The Report on Tax Reform Options: Simplification, Compliance and Corporate Taxation*  
<[https://www.whitehouse.gov/sites/default/files/microsites/PERAB\\_Tax\\_Reform\\_Report.pdf](https://www.whitehouse.gov/sites/default/files/microsites/PERAB_Tax_Reform_Report.pdf)>.

Thévenon O (2011), 'Family Policies in OECD Countries: A Comparative Analysis', *Population and Development Review*, 37(1): 57–87.

Thuronyi V (1996), 'Drafting Tax Legislation' in Victor. Thuronyi (ed), *Tax Law Design and Drafting* ( International Monetary Fund) 71-94.

Tran-Nam B and Evans C (2014), 'Towards the Development of a Tax System Complexity Index', *Fiscal Studies*, 35(3): 341–370.

UNESCO Bangkok Office (2014), 'Education Systems in ASEAN+6 Countries: A Comparative Analysis of Selected Educational Issues' (Discussion Document No.5, UNESCO Education Policy Research) 1-75  
<<http://unesdoc.unesco.org/images/0022/002267/226757E.pdf>>.

Weinstein P (2014), 'The State Tax Complexity Index: A New Tool for Tax Reform and Simplification' (online), *Policy Memo* <[http://www.progressivepolicy.org/wp-content/uploads/2014/04/2014.04-Weinstein\\_The-State-Tax-Complexity-Index\\_A-New-Tool-For-Tax-Reform-and-Simplification1.pdf](http://www.progressivepolicy.org/wp-content/uploads/2014/04/2014.04-Weinstein_The-State-Tax-Complexity-Index_A-New-Tool-For-Tax-Reform-and-Simplification1.pdf)>

Williams B. R (2013), 'Trans-Pacific Partnership (TPP) Countries: Comparative Trade and Economic Analysis' (Report No.7-5700, Congressional Research Service 2013) <<https://www.fas.org/sgp/crs/row/R42344.pdf>>