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

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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 and 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 that 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 utilised 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.

Keywords: Office of Tax Simplification, complexity index, income tax, VAT, GST

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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.

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:

1. Family policies in OECD countries: A comparative analysis[3]
2. Education systems in ASEAN+6 countries: A comparative analysis of selected educational issues[4]

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

[4] 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>.

3. Trans-pacific partnership countries: Comparative trade and economic analysis[5]

4. Comparative analysis of firm demographics and survival: Micro-level evidence for the OECD countries[6]

5. Financing democracy: funding of political parties and election campaigns and the risk of policy capture[7]

6. Languages in education and training: final country comparative analysis[8]

7. A comparative analysis of health policy performance in 43 European countries[9]

8. Why are saving rates so different across countries? An international comparative analysis[10]

9. A comparative analysis of the structure of tax systems in industrial countries[11]

10. Paying taxes 2016: The global picture[12]

11. Are stock prices related to the political uncertainty index in OECD countries? Evidence from the bootstrap panel causality test.[13]

The number of the such studies will undoubtly 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.

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[5] 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>.

[6] 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>.

[7] OECD, *Financing Democracy: Funding of Political Parties and Election Campaigns and the Risk of Policy Capture* (Paris: OECD Publishing, 2016).

[8] 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>.

[9] Johan P Mackenbach and Martin McKee, 'A Comparative Analysis of Health Policy Performance in 43 European Countries' (2013) 23(2) *European Journal of Public Health* 195–201.

[10] Sebastian Edwards, 'Why are Saving Rates so Different Across Countries?: An International Comparative Analysis' (1996) 51(1) *Journal of Development Economics* 5–44.

[11] 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).

[12] PricewaterhouseCoopers International Limited, *Paying Taxes 2016*(2016) <http://www.doingbusiness.org/~/media/GIAWB/Doing%20Business/Documents/Special-Reports/Paying-Taxes-2016.pdf>.

[13] 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' (2015) 39(2) *Economic Systems* 288–300 <http://www.sciencedirect.com/science/article/pii/S0939362515000229>.

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.[14] 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. This description provides a link between costs of compliance and tax complexity.[15] Manipulability and difficulty refer to taxpayers' compliance with tax law enforceability and predictability relates to tax law.[16] In another important study carried out by McCaffery, it is observed that a separation of three main types of tax complexity as between technical, structural and compliance complexity is required.[17] Cooper suggests that tax complexity may include the dimensions of proportionality, predictability, compliance, consistency, administration, coordination and expression[18] and his contribution may be considered as a more comprehensive version of Slemrod's.[19]

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.[20] 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. 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.[21] 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.[22] At the same time, a simple tax system increases transparency and reduces the number of points of contact between businesses and tax authorities.[23] So there are many advantages associated

[14] David Morris, *Tax Cheating: Illegal—But Is It Immoral?* (State University of New York Press, 2012) 73.

[15] 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) 156–81.

[16] Chris Evans and Binh Tran-Nam, 'Managing Tax System Complexity: Building Bridges Through Pre-Filled Tax Returns' (2010) 25 *Australian Tax Forum* 247—76.

[17] Edward J McCaffery, 'The Holy Grail of Tax Simplification' (1990) 5 *Wisconsin Law Review* 1267–322.

[18] Graeme S Cooper, 'Themes and Issues in Tax Simplification' (1993) 10 (4) *Australian Tax Forum* 417–60.

[19] Evans and Tran-Nam, above n 16.

[20] Organisation for Economic Co-operation and Development, *Fundamental Reform of Personal Income Tax* (May 2006) <http://www.oecd-ilibrary.org/taxation/fundamental-reform-of-personal-income-tax_9789264025783-en>.

[21] Victor Thuronyi, 'Drafting Tax Legislation' in Victor Thuronyi (ed), *Tax Law Design and Drafting* (International Monetary Fund, 1996) 71–94.

[22] William Gale, 'Tax Simplification: Issues and Options' (2001) 92(11) *Tax Notes* 1463–481.

[23] 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>.

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.[24] Of course, tax simplification must still take account of other policy objectives.[25] A degree of complexity may be required to achieve fairness between taxpayers and other government objectives and there are often trade-offs between these various aspects.[26] However, it should be possible to distinguish between 'necessary' complexity where simplification is difficult to achieve and 'unnecessary' complexity where it should be relatively straightforward.[27]

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.[28] 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) and Cooper's seven dimensions of tax system simplification.[29]

It has to be emphasised 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[30] and the compliance costs incurred by taxpayers in meeting their obligations under tax system. [31] 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.[32] Tax complexity in general contributes to the rise in higher administrative and compliance costs.[33]

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[24] 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> .

[25] Simon James and Alison Edwards, 'Developing Tax Policy in a Complex and Changing World' (2008) *Economic Analysis and Policy* 35–53.

[26] **S**imon James, Adrian Sawyer and Tamer Budak (eds) *The Complexity of Tax Simplification: Experiences from Around the World* (Palgrave Macmillan, 2016).

[27] Tamer Budak, **S**imon James and Adrian Sawyer, 'International Experiences of Tax Simplification and Distinguishing Between Necessary and Unnecessary Complexity' (forthcoming) *eJournal of Tax Research*.

[28] 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* 445–60.

[29] Gareth Jones, Phillip Rice, Jeremy Sherwood and John Whiting, *Developing a Tax Complexity Index for the UK* (14 September 2014) 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>.

[30] 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>.

[31] 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>.

[32] 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>.

[33] 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,

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[34]

According to research conducted by the World Bank, it has been estimated that businesses globally on average spend over a month each year complying with tax regulations. This includes 9 days for corporate taxes, 12 days for labour taxes and contributions and 13 days for consumption taxes.[35] 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.[36] The overall research on tax compliance indicates that tax compliance costs may represent economic waste but also that when tax compliance costs are high, they disproportionally affect small businesses and lower-income individual taxpayers[37] and their compliance costs.[38]

4. INITIATIVES FOR MEASURING COMPLEXITY

Measuring tax complexity involves a range of difficulties[39] 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 impact on efficiency, equity, and revenue.[40]

Modern tax systems are becoming very complex. Nevertheless, there are some institutional initiatives such as the Progressive Policy Institute's State Tax Complexity Index,[41] the World Bank/IFC's Doing Business project,[42] the OTS

Gareth Myles, and James Poterba (eds), *Dimensions of Tax Design The Mirrlees Review* (OxfordUniversity Press, 2010) 1100–162.

[34] 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>.

[35] PricewaterhouseCoopers International Limited, *Paying Taxes 2014* (2014) <http://www.pwc.com/gx/en/paying-taxes/assets/pwc-paying-taxes-2014.pdf>.

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

[37] 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>.

[38] 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>.

[39] 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) 335–91.

[40] 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>.

[41] 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>.

complexity index,[43] and contributions such as Tran-Nam and Evans' combination of the axiomatic and statistical approaches[44], and Borrego, Loo, Lopes and Ferreira's General Tax Complexity Index [45] 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 US President's Economic Recovery Advisory Board Report noted that the level of tax system complexity is very high. This complexity generates substantial costs for affected taxpayers and represents both time and money that 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 obligations. These costs are approximately equal to one percent of GDP yearly (or about $140 billion in 2008). These taxpayers' costs are also estimated at more than 12 times the IRS budget.[46]

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. Tax complexity is everywhere in the US

3. Decreasing tax complexity through removing tax expenditures can finance lower tax rates and rise fairness because their benefits commonly go to higher income individuals and businesses.[47]

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[42] PricewaterhouseCoopers International Limited, *Paying Taxes 2013* ((2013) <http://www.pwc.com/gx/en/paying-taxes/assets/pwc-paying-taxes-2013-full-report.pdf>.

[43] Jones et al., above n 29.

[44] Binh Tran-Nam and Chris Evans, 'Towards the Development of a Tax System Complexity Index' (2014) 35(3) *Fiscal Studies* 341–70.

[45] 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*) eJournal of Tax Research* 338–60.

[46] 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>.

[47] Weinstein, above n 41.

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
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: 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>

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 37th position.[48]

[48] 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>.

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.[49]

4.2 PwC and the World Bank: Paying tax

A joint report by PwC and the World Bank Group set out to calculate the level of tax complexity worldwide. The PwC Paying Taxes index, developed on behalf of the World Bank/IFC's Doing Business project, aimed at estimating 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.[50] 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.

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.[51] 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.

[49] Weinstein, above n 41.

[50] PricewaterhouseCoopers International Limited, above n 35.

[51] PricewaterhouseCoopers International Limited, above n 12.

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
Saudi Arabia	3	64	3
Singapore	5	84	6
Canada	9	131	8
Denmark	*12*	*130*	*10*
Norway	14	83	4
United Kingdom	**15**	**110**	**8**
Finland	*17*	*93*	*8*
Switzerland	19	63	19
South Africa	20	200	7
New Zealand	**22**	**152**	**8**
Netherlands	*26*	*123*	*9*
Sweden	*37*	*122*	*6*
Australia	**42**	**105**	**11**
Cyprus	*44*	*146*	*27*
Russian Federation	47	168	7
United States	53	175	11
Spain	*60*	*158*	*9*
Turkey	**61**	**226**	**11**
Portugal	*65*	*275*	*8*
Greece	*66*	*193*	*8*
Thailand	70	264	22
Germany	*72*	*218*	*9*
France	*87*	*137*	*8*
Bulgaria	*88*	*423*	*14*
Belgium	*90*	*161*	*11*
Israel	103	235	33
Japan	121	330	14
Czech Republic	*122*	*405*	*8*
China	132	261	9
Italy	**137**	**269**	**14**
Argentina	170	405	9
Brazil	178	2600	10
Venezuela, RB	188	792	70
Bolivia	189	1025	42

Source: PricewaterhouseCoopers Limited, *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 criticised by Tran-Nam and Evans.[52] 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:

1. 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.

2. 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.

3. 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.

4. 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.

5. 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 ın each country.[53]

4.3 The OTS, the index and its limitations

In the UK, the OTS was established 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 was to reduce the burden of tax compliance on both individual taxpayers and businesses.[54] 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

[52] Tran-Nam and Evans, above n 44.

[53] Ibid.

[54] 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>.

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*, which 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. Factors such as policy, legislation and implementation affect the impact of complexity as well as the underlying complexity.[55]

The OTS has pointed out that the policy process is of paramount importance in addressing the issues of complexity. Complexity may be reduced if some broad 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.[56] 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:

1. It caused many problems when measuring the index
2. The formula can produce scores above 10, which means that truncation has to be applied to the final scores
3. 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 used the *feature scaling* method in order to standardise the range of variables or data. In terms of data processing, it is known as data normalisation and is generally undertaken during the data pre-processing stage.[57] 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^{min}' represents an indicator's lowest value across all tax measures, while 'Y^{max}' 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^{max}' is the highest number for an indicator from each country's data and 'Y^{min}' is the lowest number.

[55] Jones et al., above n 29.

[56] 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>.

[57] T J Lakshmi and A Santhakumaran, 'Statistical Normalization and Back Propagation for Classification' (2011) 3(1) *International Journal of Computer Theory and Engineering* 1793–201.

The aggregation formula is much simpler and a multiplication factor is included to extend the index to give scores between 1 and 10:

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

where '$n^{1'}$ 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, which contains policy complexity, legislative complexity, and operational complexity. The other is the Resource Impact Index, which 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 HM Revenue and Customs (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 website. 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 $[(Y^1 + Z^1 + \ldots n^1)/6]*10$ to $[(Y^1 + Z^1 + \ldots n^1)/4]*10$.

The OTS released the latest version of the tax Complexity Index in June 2015, in the form of a table.[58] The latest index became more complex. 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 emphasised 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.

4.4 Other studies

Evans and Tran-Nam have 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:[59]

1. The proposed index number must cover all fundamental dimensions of tax complexity

2. All data must be measured empirically with reasonable expenditure of time, effort and resources

3. It must be useful to policy makers, tax researchers and tax advisers and accepted universally by stakeholders.

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

[59] Tran-Nam and Evans, above n 44.

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 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 utilised 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 was conducted by Borrego, Loo, Lopes and Ferreira[60], 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.

The different initiatives show serious attempts have been made to develop a complexity index that would assist moves to make tax systems more simplified and user-friendly. While these studies make important contributions they also indicate that further work is needed to develop an even better complexity index that would be appropriate for all tax systems.

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 Complexity 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;

[60] Borrego, et al., above n 45.

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).[61]

Comparative data for the four countries were collected from the Australian Government official website[62], New Zealand Government and Treasury[63], the Turkish Ministry of Finance[64], and (HMRC in the UK[65]. Only the income taxpayers' numbers of 19 million in Turkey[66] were gathered from different 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[67] 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.

5.1 The results with respect to the taxes

Although, as summarised above, there are limitations to using a tax complexity index for comparative analysis, not least in deriving appropriately comparable figures, the results are of considerable interest and indicate areas where there may be the greatest potential for reducing complexity.

5.1.1 Income Tax

Starting with the overall position for income tax as shown in Tables 11–14. In terms of the underlying complexity index, Turkey has the best score of 1.68 (Table 13) followed by NZ with a score of 3.23 (Table 12), the UK with 5.92 (Table 14) and Australia 5.97 (Table 11).

The components that make up those figures provide some further interesting comparisons as shown in Tables 3–6. For income tax exemptions and relief NZ has only 37 (Table 4), Turkey 58 (Table 5), Australia 60 (Table 3) but the UK has nearly

[61] 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>.

[62] Department of – Treasury (Cth) <http://www.treasury.gov.au>; The Federal Register of Legislation <https://www.legislation.gov.au>.

[63] New Zealand Treasury <http://www.treasury.govt.nz>; New Zealand Legislation <http://www.legislation.govt.nz>.

[64] Republic of Turkey Minister of Finance <http://www.maliye.gov.tr/Sayfalar/AnaSayfa.aspx>; Mevzuat Bilgi Sistemi <http://www.mevzuat.gov.tr>.

[65] HM Revenue and Customs <https://www.gov.uk/government/organisations/hm-revenue-customs>; The National Archives <http://www.legislation.gov.uk>.

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

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

five times that many with 291 (Table 6). A remarkable contrast also occurs with changes to legislation from period 2000–2014. New Zealand made only 51 changes, Turkey 146, but the UK had 1,500 changes, and Australia 3,972. There is also a notable difference in pages of primary legislation, ranging from Turkey with 101 pages to Australia with 4,849. Regarding readability and the Gunning-Fog Readability Index, all four countries have tax legislation that is difficult to understand but with scores relatively close together and ranging from 16.9 for the UK to 19.4 for Australia, and 19.7 for NZ to 20.1 for Turkey.

The Resource Impact Index combines administration costs for 100 units of net revenue collected, the number of taxpayers, the average ability of taxpayers and avoidance risk. Tables 11–14 give the overall position. For income tax, the UK has the best score of 3.65, followed by 4.62 for NZ, 6.93 for Australia and 8.9 for Turkey. Tables 3–6 present the components that make up these overall scores and there are some notable contrasts, for example in average resource cost where Turkey has the lowest score of 0.64 and Australia the highest at 0.94 and avoidance risk with NZ having the lowest score of 2, Australia 3 and the UK and Turkey scoring 5.

Finally Tables 11–14 present some interesting overall comparisons for income tax between the four countries, in particular that Turkey seems the most efficient at policy and legislative complexity and the UK doing best at implementation.

5.1.2 Value Added Tax (VAT)/Goods and Services Tax (GST)

For VAT/GST, according to the Underlying Complexity Index, Turkey has the lowest score, of 2.6 (Table 13), as it did with income tax, but the positions of the UK and NZ are reversed. For VAT, the UK has the second lowest score of 3.84 (Table 14), NZ 5.18 (Table 12), and Australia again has the highest figure of 7.14 (Table 11).

As with income tax, the components that make up these figures provide further indications where complexity might be most advanced. For VAT/GST Turkey has the fewest exemptions and relief with only 16 (Table 5), the UK has 20 (Table 6), Australia 28 (Table 3), but NZ, which has the fewest for income tax, has the highest figure for VAT/GST with 58 (Table 4). For legislative changes over the period 2000–2014, NZ made only 52 changes to its GST, Turkey 91 and the positions for the third and fourth highest number of changes was reversed as compared to income tax with Australia making 665 changes and the UK 854. Of course there are important differences in the two taxes but it is interesting to observe that while Australia and the UK make by far the most legislative changes to the two taxes, in relative terms Australia makes more changes to its income tax and the UK more changes to its VAT. There is again a big contrast in the number of pages of legislation for VAT/GST with Turkey having 33 pages and Australia 617 and the other two countries falling in the middle—NZ with 237 pages and the UK 298. For readability and the Gunning-Fog Index the spread is greater but otherwise similar to income tax, with the lowest score for the UK of 12.1, followed by NZ 22.2, Australia 23.4 and Turkey 26. This means the UK's VAT legislation is classified at a medium level for readability whereas legislation in the other countries is classified as difficult to understand. The UK's relative success might suggest the readability of legislation is something to be considered further. The Resource Impact Index results are shown in Tables 11–14. In contrast to its position with income tax, Australia has the best score for VAT/GST with 2.35, followed by the UK with 2.68, NZ 2.95 and Turkey 4.51. Tables 3–6 present the components that make up these figures. The average resource costs have

not been separated out between different taxes but it is noticeable that, as might be expected, the aggregate impact of VAT/GST is usually lower than for income tax.

Taking the Underlying Complexity Index together with the Resource Impact Index, Turkey has the lowest score for the former and the highest for the latter. There are also significant differences for the other three countries with the Underlying Complexity Index though they are much closer together regarding the Resource Impact Index. However, it may well follow from the figures for the component parts that make up these indexes that, for both income tax and VAT/GST, a relatively modest performance in particular areas by particular countries might indicate areas with the greatest potential improvement.

5.1.3 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 shown in Tables 11–14, there are significant differences between the four countries. Australia's score is 8.74 which is higher than the UK's score of 7.08, NZ's score of 5.61. Turkey has the lowest score of 2.98. 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, also shown in Tables 11–14, the scores for the countries considered are much closer to each other. The score for NZ is 6.22, Australia 6.38, the UK 6.66, and Turkey 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.

6. CONCLUSION, LIMITATIONS AND PROPOSALS

6.1 Conclusions and limitations

As noted above, in spite of the substantial benefits associated with simplifying a tax system, in order to achieve simplification a variety of important factors have to be considered. For tax systems to function successfully, they must strike a balance between reasonable levels of efficiency and fairness as well as possess an acceptable level of certainty. A failure to take proper account of all the relevant factors helps to explain the very limited success of simplification initiatives in countries such 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.

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. Some interesting conclusions have been reached.

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 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 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 '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. New Zealand did slightly better in terms of the total impact of complexity with a score of 6.22 for the two taxes compared to the figures for 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 clearly a much 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' because this information is gathered through discussion and consensus between selected tax professionals. Second, there is also some uncertainty about 'ability of taxpayers'. There are only rates on the relevant HMRC website 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 the number of 'changes to legislation' to the number of the 'effects of legislation amendments'. Fourth, all standardised 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. However, there is no fundamental reason why the Gunning-Fog Readability Index was used by the OTS. It may therefore be worth assessing other readability indexes to apply to legislation, particularly 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. The '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. First, 'pages of legislation' has been calculated from the legislative website. The majority of the countries use the same or similar font size and paper size. Second, the rate of avoidance risk is based on tax revenue and the number of taxpayers and, while there is scope to develop the calculations further, they should produce reasonably objective figures.

6.2 Proposals

The analysis above suggests that the Complexity Index can be utilised to produce useful international comparisons but it would be even better if all indicators were clear and objective. It should be noted that the OTS did not produce the Complexity Index to make international comparisons. 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. This must include advances in technology which have contributed to the development of pre-filled tax returns and other means of assistance for taxpayers to help them despite 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:[68]

1. To take into account the importance of different aims of tax policy
2. Simplification has to be incorporated into the tax policy process itself
3. Develop a 'simplification culture'
4. 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

[68] James and Wallschutzky, above n 28.

heart of this process which inevitably encourages progress and brings considerable benefit to the wider public. It is obvious that there is a need for fundamental changes in tax simplification culture.

7. ANNEX

Table 3: Australia data (2014)

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

Table 4: New Zealand Data (2014)

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

Table 5: Turkey Data (2014)

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

Table 6: The UK Data (2014)

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

In this step, the standardisation formula $Y1 = (Y-Y^{min})/(Y^{max}-Y^{min})$ is applied to scale each of the countries' indicators between 0 and 1. Those indicators are shown below:

Table 7: Standardised Indicators for Australia

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

Table 8: Standardised Indicators for New Zealand

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

Table 9: Standardised Indicators for Turkey

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

Table 10: Standardised Indicators for the UK

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

In this step, the aggregation formula $(Y^1 + Z^1 + \ldots n^1)/4)*10$ is applied to give each tax a score between 1 and 10.

Table 11: 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***	
Underlying Complexity Index		***5.97***	***7.14***	**Total Impact of Complexity**
5- Administration 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***	
Resource Impact Index		***6.93***	***2.35***	

Table 12: 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***	
Underlying Complexity Index		***3.23***	***5.18***	**Total Impact of Complexity**
5- Administration 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***	
Resource Impact Index		***4.62***	***2.95***	

Table 13: Indexes for Turkey

		Income Tax	VAT	Total Underlying Complexity[69]
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***	
Underlying Complexity Index		***1.68***	***2.6***	**Total Impact of Complexity**
5- Administration 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***	
Resource Impact Index		***8.9***	***4.51***	

Table 14: 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***	
Underlying Complexity Index		**5.92**	***3.84***	**Total Impact of Complexity**
5- Administration 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***	
Resource Impact Index		***3.65***	***2.68***	

The aggregation formula $(Y^1 + Z^1 + \ldots n^1)/6)*10$ is applied to find the index for total taxes scores between 1 and 10.

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