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How Can We Compare Tax Systems?

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Beyond tax rates, how can one country's tax system be compared, at an overall level, to another's in terms of competitiveness and complexity?

Traditionally, tax rates have been the main indicator used for comparing the competitiveness of country tax systems. For example, the School of Public Policy at the University of Calgary provides an annual snapshot of countries' effective marginal tax rates (mainly to assess the competitiveness of Canada's corporate tax regime)[2]. Likewise, a similar approach, focused on G20 countries, was used by the Centre for Business Taxation at the University Oxford for assessing the UK corporate tax system.[3]

The Heritage Foundation's Tax Burden Index[4] is similar as its scoring is mostly derived from marginal tax rates on both personal and corporate income. But it also considers countries' overall tax-to-GDP ratios.

Such an approach, however, fails to consider multiple aspects of the tax system. As Slemrod and Gillitzer (2013) argue, 'tax policy is really tax-systems policy'.[5] Effective tax policy depends on the interrelationship between different aspects of taxation, including tax rates, tax bases, administration, enforcement and taxpayers' compliance. Think tanks and international institutions have thus started to account for this multidimensional nature of taxation to provide more comprehensive rankings or comparisons of national tax competitiveness and complexity around the world.

The rankings and indices that have been produced to compare tax systems primarily operate off of an assumption that a more competitive tax system and a less complex tax system will both generate a more efficient tax system. The Tax and Transfer Policy Institute has produced numerous tax facts about tax system design (TTPI, 2018) and good tax policy (TTPI, 2019a and TTPI, 2019b) which provide some background context for the links between competitiveness in rates, simplicity and efficiency.

Assessing tax systems
There are a number of cross-country comparisons established over recent years that seek to assess and compare multiple aspects of national tax systems (see Table 1).

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[1] We thank Chung Tran and Andrew Mills for comments on an earlier draft.
[2] https://journalhosting.ucalgary.ca/index.php/sppp/article/view/69779
[3] https://core.ac.uk/download/pdf/288286506.pdf
[4] https://www.heritage.org/index/pdf/2020/book/index_2020.pdf
[5] https://mitpress.mit.edu/books/tax-systems

Table 1: Cross-country comparisons of tax systems

	Organiser	Year established	Latest Available Year	Frequency	Country coverage
World Competitiveness Yearbook - Tax/Fiscal Policy	IMD Business School	1989	2020	Annual	63
Tax Administration Comparative Information Series	OECD	2004	2019	Biannual	58
Enterprise Surveys - Regulation and Taxes	World Bank	2005	Variable by country	Ongoing – each country is surveyed every 3 to 4 years	144
Paying Taxes	World Bank and PwC	2006 (published in 2005)	2020 (published in 2019)	Annual	190
Collecting Taxes Database	USAID	2008	2018	Annual	200
Asia Pacific Tax Complexity Survey	Deloitte	2010	2017	Triennial	20 (Asia Pacific countries)
International Tax Competitiveness Index	Tax Foundation	2014	2019	Annual	36 (OECD countries)
Global Business Complexity Index (formerly known as Financial Complexity Index) - Accounting and Tax	TMF Group	2017	2020	Annual	77
Global MNC Tax Complexity Project (Tax	LMU Munich and University of Paderborn	2019	2019	Unknown	100

Complexity Index)					
VAT Compliance Burden Index	UNSW Business School	2019	2019	Unknown	47

Many of them use a composite indicator that aggregates multiple sub-indicators, which measure a variety of taxes and administrative processes. This includes indices such as the World Bank and PwC's *Paying Taxes*[6], the Tax Foundation's *International Tax Competitiveness Index*[7], the LMU Munich and the University of Paderborn's *Global MNC Tax Complexity Project*[8], and the UNSW Business School's *VAT Compliance Burden Index*[9] (*Paying Taxes* is part of the World Bank's flagship *Ease of Doing Business Index*, but it has gained prominence since its establishment and its findings are published as a standalone report annually).

There are also sub-indices that focus on comparing national tax systems which are featured in global business studies such as the IMD's *World Competitiveness Yearbook*[10] and the TMF Group's *Global Business Complexity Index*[11]. The methodology of what is included in these indices and how exactly they are formed is not publicly available without a subscription.

Other studies include perception surveys such as the World Bank's *Enterprise Surveys*[12] and Deloitte's *Asia Pacific Tax Complexity Survey*[13]. They reflect what firms think of a country's tax policy generally, but do not allow further breakdown into detailed aspects of the tax systems.

Databases such as the *OECD Tax Administration Comparative Information Series*[14][15] and the *USAID Collecting Taxes Database*[16] collect large amount of data on multiple aspects of different national tax systems. The two databases are perhaps of primary interest to tax administrations and international donor organisations as they focus on tax administration performance and capabilities, but they are also used to inform many cross-country tax system indices and

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[6] https://www.doingbusiness.org/en/data/exploretopics/paying-taxes#

[7] https://taxfoundation.org/publications/international-tax-competitiveness-index

[8] https://www.taxcomplexity.org/

[9] https://www.business.unsw.edu.au/Our-People-Site/Documents/Joint%20Report%20on%20VAT%20compliance%20costs%20tool.pdf

[10] https://worldcompetitiveness.imd.org/

[11] https://www.tmf-group.com/en/news-insights/publications/2020/global-business-complexity-index/

[12] https://www.enterprisesurveys.org/en/data/exploretopics/regulations-and-taxes

[13] https://www2.deloitte.com/global/en/pages/tax/articles/asia-pacific-tax-complexity-survey.html

[14] https://www.oecd.org/tax/forum-on-tax-administration/publications-and-products/comparative/tax-administration-23077727.htm

[15] The OECD produces a number of other cross-country comparison products that each look at different aspects of the national tax systems. This includes the *Global Revenue Statistics Database* (which provides comparable tax revenue for 95 countries), *Taxing Wages* (which compares tax paid on wages in OECD countries) and *Tax Policy Reforms* (which provides comparative information on tax reforms across countries). They are not considered here because they do not intend to assess and capture the multidimensional nature of taxation.

[16] https://www.usaid.gov/what-we-do/economic-growth-and-trade/domestic-resource-mobilization/collecting-taxes-database

analyses. These databases, on their own, do not tell us anything about tax competitiveness or complexity.

For tax administration, the International Monetary Fund (IMF) has developed a score-based diagnostic tool for assessing and benchmarking performance: Tax Administration Diagnostic Assessment Tool (TADAT). TADAT is based on the World Bank's Public Expenditure and Financial Accountability framework[17]. TADAT assessments for different countries are not conducted at the same time which complicates cross-country comparison.

It is clear from Figure 1 that tax system indices have become increasingly popular. They provide a simple and clear way in which national tax systems can be assessed and compared on an aggregate level. They also allow ranking of countries, simplifying comparison. They are increasingly referenced by policymakers and stakeholders in driving tax reform.

How are the indices constructed?

In general, these indices seek to measure and aggregate a number of facets of the tax systems. Yet what they actually cover and measure can be quite different (see Table 2 below).

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[17] https://www.tadat.org/

Table 2: What do tax system indices measure and cover?

Index	Taxpayers	Tax system aspects				Taxes covered			
		Tax rates	Administrative requirements and burdens	Tax law complexity	Wider political and judiciary framework	Corporate income tax	Labour tax/ Personal income tax	Consumption tax	Other taxes
Paying Taxes	Domestic firms	√	√			√	√	√	All other taxes and mandatory contributions
International Tax Competitive Index	Firms and individuals	√	√	√		√	√	√	Property tax and tax treatments of cross border income and transactions
Global MNC Tax Complexity Project	Multinational firms	√	√	√	√	√			Tax treatments of cross border income and transactions
VAT/GST Compliance Burden Index	Firms		√	√				√	

Note: The VAT/GST Compliance Burden Index does not consider the tax rate. It only considers the VAT/GST rate structure of the surveyed countries (namely whether they had a rate structure with two or more reduce rates).

For example, *Paying Taxes* has four sub-indicators: one is for assessing how high tax rates are in the surveyed jurisdiction; and three others are for the administrative burden faced by businesses (time to comply, number of payments, and refunds and corrections).[18] It covers not just taxes, but also other contributions that are government mandated such as social security contributions. It uses a hypothetical firm approach, basing its analysis on a case scenario of a typical medium-size company in the surveyed jurisdiction and then getting a sample of experts who are familiar with the jurisdiction to measure based on the jurisdiction's laws and regulations the taxes and mandatory contributions that the hypothetical business must pay as well as the administrative burden the firm must bear for complying with and paying those taxes and contributions. It does not measure top marginal tax rates.

The *International Tax Competitive Index* is disaggregated by five tax-specific sub-indicators: corporate taxes, income taxes, consumption taxes, property taxes and policies with respect to the treatment of cross-border income and transactions. Similar to *Paying Taxes*, it considers the tax rates and the administrative burden faced by taxpayers in complying with these taxes. It, however, uses the top nominal marginal tax rates as the basis of evaluation. It also considers how the tax systems are structured in the surveyed countries, whether they are neutral (in other words, not favouring certain activities over another). For example, one country will score worse if it provides incentives to certain industries or activities. The motivation for this is obviously that such incentives distort economic decisions.

The *Global MNC Tax Complexity Project* is unique in the sense that it covers the whole tax policy making and administering cycle, from enactment to the judiciary. Unlike other indices it goes beyond how taxes are complied with and paid. It focuses only on the corporate income tax system, as faced by multinational corporations (MNCs), and does not cover other taxes.

How useful are the rankings and indicators?
Tax rankings and indices are helpful in summarizing vast amounts of complex information a national tax system for cross-country comparison. Yet, they come with important limitations. Policymakers should be cautious in applying these indices and rankings; and must consider the specific context of a country before using the findings of these indices and rankings to push for any changes to the tax system.

Some of the issues include:
- **They are ignorant of individual countries' political, economic and social needs:** It is often argued that a country's tax system reflects its political, economic and social environment. As a result, national tax systems or practices can vary widely between countries and one set of institutions that is appropriate in one country may not be appropriate in another. Yet, many of these indices advocate a particular type of 'good' tax policy practice or structure and they are referenced extensively in national policy debates without realising their shortcomings. For example, a 2013 independent panel review has found that countries that performed the best on the Paying Taxes indicators

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[18] https://www.doingbusiness.org/en/methodology/paying-taxes

tend to either have no traditional taxes on income and profits (the case in most of the oil-rich states), or low levels of taxes because of political decisions to limit the role of the state.[19] Any reform must thus consider the country's wider political, economic and social needs as expressed through its political system.

- **They may drive 'unhealthy' tax competition:** One criticism to the comparative approach using tax rates is that it may trigger a race to the bottom. While tax system indices consider wider aspects of tax policy, they are not immune to this problem. In some indices, tax rates still have significant influence on the final score (for example, in *Paying Taxes*, the total tax and contribution rate accounts for 25 per cent of the *aggregate* score. The World Bank ratings have partly addressed this issue by having a threshold set at the 15th percentile of the overall distribution for all years. All countries with a total tax and contribution rate below the threshold receive the same score).

- **Ranking and scoring can be misleading:** The appeal of these indices lies in their simplicity: they provide a simple, clear point of reference so that we can quickly compare one country's tax system with another's. But studies have indicated such indices and rankings are often less conclusive than they hope to be. For example, research by Høyland et al (2012) shows that if data uncertainty is taken into account, a move of 10, 20 or 30 places on a number of famous international rankings including *Doing Business* (the parent index of *Paying Taxes*) could be due to random noise and is within the margin of error, rather than a real difference in performance.[20] Therefore, it might be better to allocate countries into groups of similar performance than to provide complete country ranking. This is the approach used by the World Development Index, for example.

- **Ad hoc nature of rankings:** Weights used in assembling the rankings are generally ad hoc and based on subjective assessments of the importance of various elements of the tax system rather than upon any systematic quantitative analysis of how tax system parameters feed into wider objectives such as economic growth or societal well-being.

- **Indicators may not capture what we care about:** There are questions whether some of the selected indicators really capture what they intend to measure. For example, some indices such as *Paying Taxes* use the frequency of filing and payments as an indicator of the administrative burden placed on taxpayers. But this is a poor measure as some taxpayers may prefer filing and payments on a monthly basis rather than on an annual basis or a half yearly basis for cash flow reasons. Many also use tax rates as an indicator of the tax cost placed on taxpayers. But, as pointed out by the 2013 World Bank independent review panel, there are conceptual issues in using this indicator as it often fails to consider the tax incidence and the relative importance of different taxes. Also, indicators are only as good as what they can capture. There are a number of issues, such as the size and importance of the informal economy, which could affect the quality of a national tax system but they are difficult to measure and monitor, and thus are not covered in the indices.

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[19] http://pubdocs.worldbank.org/en/237121516384849082/doing-business-review-panel-report-June-2013.pdf
[20] https://www.sciencedirect.com/science/article/abs/pii/S0304387811000198

- **Source of data:** The source of data used to inform the indices is varied and they each has limitations. For example, the OECD is one source of data widely used to inform cross-country tax system indices and analyses as they have done a great job in collecting large amount of administrative data from a large group of countries. But there are always questions of how reliable the data is because the OECD databases rely on self-reporting of governments. Alternatively, expert evaluations can be used to provide a more objective and rigorous assessment but there are still always questions of how representative they are and the quality of the responses.

The position of countries within different rankings seems to vary considerably. For example, Australia ranked fairly well in the *International Tax Competitive Index* (no. 7 among 36 OECD countries) and the *IMD World Competitive Yearbook*'s Tax Policy rankings (no. 8 among 36 OECD countries). But Australia performs badly in the *Global MNC Tax Complexity Project* (no. 26 among 34 OECD countries) and moderately in *Paying Taxes* (no. 17 among 36 OECD countries) (see Appendix). It is important to recognise that these rankings are not necessarily measuring the same thing, which is one explanation for the differences in rankings (see Table 2 above).

We compare the country rankings of the 34 OECD countries that are featured in the 2020 *Paying Taxes* report, the 2019 *International Tax Competitive Index*, the *Global MNC Tax Complexity Project* and the 2020 *IMD World Competitive Yearbook*'s Tax Policy rankings. We examine the correlations in the rankings from the different indices. Results are presented in Table 3 below. (The rankings of these four indices are publicly available. The VAT Compliance Burden Index does not have a ranking system; and the Global Business Complexity Index's Accounting and Tax rankings are not publicly available without a subscription.)

The rankings of the 34 OECD countries have quite low correlation for these four indices which all advertise themselves as being about tax competitiveness in one way or the other. Again, because they measure different things, it is perhaps not surprising that the correlation between them is quite low. But it illustrates the subjective nature of ranking the tax systems of different countries.

Table 3: Correlations between tax system rankings

	2019 International Tax Competitive Index	2020 Ease of Paying Taxes	Global MNC Tax Complexity Project	2020 IMD World Competitive Yearbook's Tax Policy
2019 International Tax Competitive Index	1			
2020 Ease of Paying Taxes	0.52605042	1		
Global MNC Tax Complexity Project	0.47868602	0.755233	1	
2020 IMD World Competitive Yearbook's Tax Policy	0.26325439	0.57310924	0.39098549	1

Note: The 34 OECD countries are re-ranked within the group. Colombia, which joined the OECD recently, are not considered; and Iceland and Latvia were not covered in the *Global MNC Tax Complexity Project*.

Conclusions

In this article, we reviewed and evaluated some recent efforts in making cross-country comparisons of tax systems, particularly those using indices and rankings. While they are useful in identifying tax reform trends across the world and comparing performance between countries, policymakers should be aware of their limitations and exercise caution in using their findings. There is no sense in which being "number one" in any of these rankings would automatically equate to having a tax system which is ideal for one's country. Competitiveness of a tax system tells us very little about how the overall tax and transfer system achieves policy intentions which may include multiple objectives including fairness and equity.

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TTPI (2019b) Good Tax Policy: Taxing Economic Rents, Tax Fact #8, Tax and Transfer Policy Institute, Canberra.

Appendix: Rankings within OECD

	2019 International Tax Competitive Index	2020 Ease of paying taxes	Global MNC Tax Complexity Project	2020 IMD World Competitive Index
1	Estonia	Ireland	Estonia	Switzerland
2	New Zealand	Denmark	Luxembourg	United States
3	Latvia	New Zealand	Lithuania	Canada
4	Lithuania	Finland	New Zealand	Korea
5	Switzerland	Estonia	Israel	Ireland
6	Luxembourg	Israel	Korea	Israel
7	Australia	Latvia	Ireland	New Zealand
8	Sweden	Lithuania	Switzerland	Australia
9	Netherlands	Canada	Netherlands	United Kingdom
10	Czech Republic	Switzerland	Japan	Mexico
11	Slovak Republic	Korea	Norway	Estonia
12	Austria	Netherlands	Finland	Chile
13	Turkey	Luxembourg	Austria	Iceland
14	Hungary	United States	Hungary	Turkey
15	Canada	Turkey	United Kingdom	Lithuania
16	Germany	United Kingdom	Denmark	Denmark
17	Ireland	Australia	Sweden	Japan
18	Finland	Sweden	Portugal	Norway
19	Norway	Norway	Belgium	Luxembourg
20	Slovenia	Spain	United States	Latvia
21	United States	Iceland	Germany	Hungary
22	Iceland	Portugal	Turkey	Spain
23	Spain	Austria	Canada	Czech Republic
24	Denmark	Slovenia	Slovenia	Netherlands
25	United Kingdom	Germany	Spain	Slovak Republic
26	Korea	Japan	Australia	Poland
27	Belgium	Czech Republic	France	Portugal
28	Japan	Slovak Republic	Poland	Finland
29	Mexico	Hungary	Slovak Republic	Sweden
30	Greece	France	Mexico	Slovenia
31	Israel	Belgium	Chile	Germany
32	Chile	Greece	Czech Republic	Italy
33	Portugal	Poland	Greece	Greece

34	Italy	Chile	Italy	Austria
35	Poland	Mexico		Belgium
36	France	Italy		France
			Not included	
			Iceland	
			Latvia	