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Measuring Tax Treaty Negotiation Outcomes: the ActionAid Tax Treaties Dataset

Martin Hearson

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Measuring Tax Treaty Negotiation Outcomes: the ActionAid Tax Treaties Dataset

Martin Hearson

Summary

This paper introduces a new dataset that codes the content of 519 tax treaties signed by low- and lower-middle-income countries in Africa and Asia. Often called Double Taxation Agreements, bilateral tax treaties divide up the right to tax cross-border economic activity between their two signatories. When one of the signatories is a developing country that is predominantly a recipient of foreign investment, the effect of the tax treaty is to impose constraints on its ability to tax inward investors, ostensibly to encourage more investment.

The merits of tax treaties for developing countries have been challenged in critical legal literature for decades, and studies of whether or not they attract new investment into developing countries give contradictory and inconclusive results. These studies have rarely disaggregated the elements of tax treaties to determine which may be most pertinent to any investment-promoting effect. Meanwhile, as developing countries continue to negotiate, renegotiate, review and terminate tax treaties, comparative data on negotiating histories and outcomes is not easily obtained.

The new dataset fills both these gaps. Using it, this paper demonstrates how tax treaties are changing over time. The restrictions they impose on the rate of withholding tax developing countries can levy on cross-border payments have intensified since 1970. In contrast, the permanent establishment threshold, which specifies when a foreign company's profits become taxable in a developing country, has been falling, giving developing countries more opportunity to tax foreign investors. The picture with respect to capital gains tax and other provisions is mixed. As a group, OECD countries appear to be moving towards treaties with developing countries that impose more restrictions on the latter's taxing rights, while non-OECD countries appear to be allowing developing countries to retain more taxing rights than in the past. These overall trends, however, mask some surprising differences between the positions of individual industrialised and emerging economies. These findings pose more questions than they answer, and it is hoped that this paper and the dataset it accompanies will stimulate new research on tax treaties.

Keywords: capital gains tax; corporation tax; double taxation agreement; foreign direct investment; sub-Saharan Africa; Asia; tax treaty; withholding tax.

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Acronyms

FDI	Foreign Direct Investment
IBFD	International Bureau for Fiscal Documentation
LDC	Least Developed Country
MAP	Mutual Agreement Procedure
NGO	Non-Governmental Organisation
PE	Permanent Establishment
WHT	Withholding Tax

Introduction

Bilateral tax treaties are the building blocks of an increasingly controversial international tax system. Around 3,000 such agreements are in force. They tie their signatories into restrictions on if, how, and how much they can tax multinational companies and other cross-border economic activity, ostensibly to eliminate the barriers to such activity caused when countries' tax systems overlap. Critical academic commentators suggest that the burden of these constraints falls too heavily on capital-importing developing countries, as opposed to the capital-exporting countries with whom they have signed tax treaties (Avi-Yonah 2009; Brooks 2009b; Dagan 2000; Thuronyi 2010). There is also evidence that developing country negotiators have not always been fully aware of the extent to which the treaties they were signing would constrain their future tax policymaking autonomy (Irish 1974; Kangave 2009; Hearson 2015a).

A number of developing countries have recently begun to reconsider their approach to tax treaties. South Africa, Rwanda, Argentina, Mongolia and Zambia have all cancelled or renegotiated agreements since 2012, and others, such as Uganda, are undertaking reviews (Hearson 2015a). The Netherlands and Ireland have also reviewed the impact of their treaty networks on developing countries, and offering renegotiations to some of their treaty partners as a result (IBFD 2015b; Netherlands Ministry of Finance 2013).

To begin reaching a view on whether a particular treaty is a 'good deal' for a developing country, it is necessary to understand the likely impact of its various provisions, and to set them in comparative context. The evidence to date does not paint a conclusive picture of the impact of tax treaties on either investment or tax revenue in developing countries. Studies analysing the effect of tax treaties on investment flows have produced conflicting results, but rarely use data covering low-income countries, and do not consider which provisions in tax treaties might be critical to any investment-promoting effect. Assessments of the fiscal impact of tax treaties are scarce and imprecise. On the political side, attempts to model the negotiation process have been limited to only a few clauses, leaving the majority of the variation within treaties unexamined.

For treaty negotiators, and anyone wishing to scrutinise the outcome of a negotiation, information on the negotiating practices of a country's competitors and treaty partners is difficult to analyse, scattered in PDF files on websites, or in proprietary databases. The same obstacles makes it difficult to compare a country's existing treaty network with those of other countries. The biggest study of tax treaty content to date compared 1,811 treaties on the basis of 30 standardised variations that affect how constrained a developing country is in its ability to tax inward investors (Wijnen and de Goede 2013). For almost all these possible variations, the majority of treaties between developed and developing countries included versions of clauses that were at the more restrictive end of the available options, imposing bigger curbs on developing countries' taxing rights. A tentative conclusion from this might be that in most cases developing countries wishing to regain some flexibility over tax policy could do so by renegotiating their treaties.

This paper introduces the *ActionAid Tax Treaties Dataset*, which has been developed with two aims in mind: to support researchers in producing more nuanced research on the impact of tax treaty provisions, and to give policymakers (and those who hold them to account) comparative data to help them make more informed decisions about the design and evaluation of tax treaties. The dataset includes information on 26 aspects of 519 tax treaties concluded by developing countries in sub-Saharan Africa and Asia. It has been produced by

academic researchers with funding from ActionAid, and made available simultaneously through the websites of ActionAid[1] and the International Centre for Tax and Development.[2]

This paper explains the methodology and rationale for the dataset, and then presents some initial descriptive findings based on its contents. Briefly, the trend towards lower withholding tax (WHT) rates on cross-border payments that has been identified elsewhere (IMF 2014: 102) is only one part of a bigger picture in which different provisions are becoming more or less popular among different groups of countries. Across the board, for example, permanent establishment (PE) provisions (explained below) are becoming more generous to developing countries, while the picture with respect to capital gains tax is mixed. As a group, OECD countries appear to be moving towards treaties with developing countries that impose more restrictions on the latter's taxing rights, while non-OECD countries appear to be allowing developing countries to retain more taxing rights than in the past. These overall trends, however, mask some surprising differences between the positions of individual industrialised and emerging economies. These findings pose more questions than they answer, and it is hoped that this paper and the dataset it accompanies support new research on tax treaties.

1 What are tax treaties, and why are they important?

Countries have signed bilateral treaties related to taxation for more than a hundred years, but the modern era begins with the development of international model treaties through the League of Nations in the 1920s and 1930s (Picciotto 1992). At this time, multinational companies, in particular through the International Chambers of Commerce, were concerned about the problem of double taxation, which occurred when two (or more) countries taxed the same cross-border income.

Tax treaties stipulated which of two principles should prevail when they came into conflict: the principle of source, by which a country is entitled to tax income because it is earned within its borders; and the principle of residence, by which a country is entitled to tax income because it is earned by one of its residents. Where the investment flows in either direction between two countries are of similar size, the balance between source and residence taxation has little effect on the overall distribution of taxing rights. But where the flows are predominantly one way, as in the case of a treaty between a capital-exporting developed country and a capital-importing developing country, it has consequences: the principle of residence privileges the taxing rights of the net capital-exporter in the relationship, while the principle of source privileges those of the net capital-importer. The countries in such a relationship are therefore often referred to as the residence and source countries respectively.

Broadly speaking, treaties allocate to the source country the primary right to tax 'active' income, the profits from activities in which the recipient of the income plays an active role, such as a branch or subsidiary; in contrast, they grant the residence country the primary right to tax 'passive' income, which the recipient earns without being actively involved, such as royalties for the use of its intellectual property (Avi-Yonah 2007). The residence country agrees to make allowance for any tax its residents have paid in the source country when calculating their tax liability at home. In return, the source country agrees to certain restrictions on its capacity to tax income earned by residents of the treaty partner within its

[1] <http://www.actionaid.org/tax-power>.

[2] <http://www.ictd.ac/datasets/action-aid-tax-treaties-datasets>.

borders. There are three significant ways that tax treaties reduce the amount of tax a source state may impose on income earned by a taxpayer who is resident in another state:

- First, tax treaties may limit the rate of tax imposed on the income earned at source. WHT rate restrictions in tax treaties stipulate the maximum rate at which the source country can tax dividends, interest payments, royalties and fees for management, and technical and consultancy services (service fees) paid to residents of the treaty partner. The rates set out in treaties are generally lower than the withholding rate applicable in absence of a tax treaty, and in some instances they are set at zero.
- Second, tax treaties may define the scope of tax (what can be subject to tax) in a more limited way than would otherwise be permitted under domestic law. For example, the concept of PE establishes a minimum threshold of activity that must take place in a country before it can levy tax on the profits generated there by the taxpayer concerned. The decision about whether a taxpayer has a PE is generally made based on qualitative criteria, such as whether the taxpayer operates through a fixed place of business; as well as through quantitative criteria, such as a minimum number of days before a construction site constitutes a PE of the taxpayer. Some types of activity, such as delivery warehouses and collecting insurance premiums, may be explicitly defined as meeting or not meeting the PE definition, effectively including or excluding income connected to that PE from taxation in the source state.
- Finally, tax treaties may simply exempt some types of income earned in the source state from taxation in that state. For example, many treaties prohibit the source country from imposing taxes on capital gains in particular circumstances, pensions, social security payments and salaries.

As a major development in international tax policy over the last century, capital-exporting countries have increasingly introduced unilateral measures (usually foreign tax credits) to prevent their residents incurring double taxation, available to all residents no matter in which countries they invest. Additionally, most capital-exporting countries have ceased to tax businesses' active income earned abroad, exempting such foreign income from tax altogether (PWC 2013). As a result, capital-exporting countries incur few costs when they sign tax treaties, and their residents arguably do not need the treaties to reduce double taxation since the unilateral measures now offer that relief. However, tax treaties continue to impose costs on capital-importing countries, because those treaties require capital-importing countries to sacrifice revenue they would otherwise tax under their domestic tax system by some combination of the mechanisms described above. Noting this disparity, a critical strand in the law literature on tax treaties signed by developing countries argues that their predominant effect is not to alleviate double taxation (although there may still be instances where a treaty is necessary to achieve this), but to shift the burden of double tax relief onto the capital-importer, or to lower the effective tax rate of foreign investors (Avi-Yonah 2009; Dagan 2000; Irish 1974; Thuronyi 2010)·.

This critical viewpoint does not necessarily imply support for more source taxation of inward investment in developing countries, because tax treaties are about long-term taxing 'rights', beyond their immediate tax implications. Any decision to enter into, modify, or cancel a tax treaty with another jurisdiction has a potential impact on foreign investment flows and tax revenue, and hence on economic growth and development. But the impact of a tax treaty provision, such as lower tax rates on cross-border payments, may differ from the impact of that same reform implemented through domestic legislation because the treaty is a binding international instrument, rather than a part of the domestic tax code that can be more easily changed through subsequent legislation. The longer-term commitment implied by a tax treaty might be an attraction to investors, but if a government's aim is simply to reduce their effective tax rate, it can do so without surrendering its source taxing rights in a tax treaty.

This historical debate about the distribution of the burden of double taxation relief has been eclipsed in political debate in recent years by a focus on abuse: the use of tax treaty networks to obtain tax advantages not intended by one or both of the signatories. This can be seen in discussion by NGOs (e.g. McGauran 2013; Weyzig and Dijk 2007) and international organisations (Cooper 2014; IMF 2014:102; OECD 2014b; UNCTAD 2015; see also Durst 2015). In particular, the focus has been on 'treaty-shopping', where international capital flows are structured through intermediate jurisdictions such as the Netherlands and Mauritius, whose tax laws and treaty networks combine to create tax planning opportunities (OECD 2013; Weyzig 2012; Norwegian Government Commission on Capital Flight from Poor Countries 2009). While the source-residence balance in tax treaties and the issue of treaty shopping are not unrelated, the emphasis in this paper is on the former, not the latter.

Depending on how 'developing country' is defined, developing countries have signed anywhere from 1,000 to 2,000 tax treaties. (In this paper, developing country is defined as low- and lower-middle-income countries, with the aim of focusing on countries that are predominantly capital-importers. The corollary that upper-middle- and higher-income countries are all developed is less satisfactory, since this category includes emerging economies that are simultaneously capital importers and exporters.) Developing countries have been primarily motivated by a desire to attract foreign direct investment (FDI), although their ideas about exactly how this might occur have changed over time (Hearson 2015a), and in any event the evidence that they work is mixed at best (discussed below). Nonetheless, for many of the sample countries, a large share of investment into developing countries is covered by tax treaties. As the next section considers, research to date has not convincingly quantified the costs or benefits of tax treaties to developing countries, beyond some evidence that the costs may be significant.

2 A review of the literature discussing tax treaty content

This section briefly reviews the small amount of literature that considers the causes and consequences of tax treaties. This literature is divided into three categories: studies seeking to describe and explain the patterns in treaties' negotiated content, studies that consider the impact of tax treaties on investment flows, and studies that focus on the fiscal costs of tax treaties. As will be illustrated, the majority of studies suffer from a lack of reliable, cross-country data on the content of treaties, beyond several categories of withholding taxes.

2.1 The negotiated content of tax treaties

In 2013, researchers at the International Bureau for Fiscal Documentation (IBFD) surveyed tax treaties that had been negotiated since 1997 (Wijnen and de Goede 2013). The survey compared these treaties to the two main international model conventions used in negotiations: the OECD and UN models. Although similar in form, the UN model's provisions include more source taxation rights than the OECD model, which means that they constitute a better outcome for a developing country that wishes to conclude a treaty while retaining its taxing rights over foreign investors. Across 30 provisions in 1,811 treaties, this study found that UN model provisions were in the minority, but were most common in treaties between non-OECD countries. Treaties between OECD and non-OECD countries, which may be a proxy for treaties between countries that have a predominantly one-way FDI relationship, were on average composed of 30 per cent UN provisions (Wijnen and de Goede 2013: 66). This compared to 25 per cent for treaties between OECD members, and 37 per cent

between non-members. A downside of this study was that no breakdown beyond these three categories was provided.

Dauer and Krever (2012) survey tax treaties in eleven African countries, comparing the negotiated outcome of several clauses across treaties concluded by these African countries, as well as those concluded by six Asian countries. Their survey found marked differences between some countries, and noted that 'as a group, these African countries appear not to have been as successful as Asian countries in retaining taxing rights', in particular with respect to the definition of PE. The authors advanced, but did not test, three explanations for this: countries' negotiating strength, national policy preferences, and emulation of regional partners.

Two accounts of the negotiation process support the first of these three explanations, that negotiating capability is the issue. According to Aukonobera (2012: 1084), 'Uganda has a weak tax treaty negotiation team that concludes treaties more intensively reflecting the position of the other contracting state', while Quinones Cruz (2012: 299) reports that in Colombia in the 2000s a policy of 'attracting investment at any price' led to poorly-prepared negotiations that resulted in an outcome that reflected the preferences of Colombia's negotiating partners much more than those of Colombian negotiators.

In contrast, a number of studies have attributed differential outcomes to the attitude of developed countries. Irish (1974:301) suggests that the prevalence of African tax treaties with Nordic countries and West Germany in the 1970s was a result of these countries' openness to negotiate and to conclude treaties on more preferential terms. These countries, he writes, 'do recognise the necessity of greater taxation at source and are willing to enter into tax agreements favourable to developing countries'. Brooks (2007:193) observes that 'Australia has been more generous than Canada both in ensuring that included services are part of the royalties definition … and in avoiding unjustified exemptions from the scope of the royalty provision'. Canada's WHT rates have become lower as time has progressed (Brooks 2009a).

Combining these two perspectives are discussions of the evolving treaty negotiating strategies of rising powers. Li (2012) analyses the historical development of China's treaty network across eighteen provisions, finding that China had changed its preference in negotiations, from preferring clauses that expanded its taxing rights as a capital importer, towards more recently preferring clauses that expand its taxing rights as a capital exporter. As an example, its newer treaties include much lower WHT rates on dividends. In Baistrocchi's (2013) assessment an initial stage of Chinese treaty policy can be observed before these two, during which it was willing to accept treaties on OECD members' terms in order to send the signal that it was open to investment.

In contrast to these power- and capability-based explanations of negotiated outcomes, some studies have found evidence for a more cooperative view, in which capital importers obtain greater source taxing rights when the investment relationship is more unequal. Chisik and Davies (2004) and Rixen and Schwarz (2009) study how the WHT rates in tax treaties varied with the balance of FDI stocks between the two signatories, the former using US treaties and those between OECD members, and the latter German treaties. Both studies find that WHT rates are higher where the FDI stocks between the treaty partners are less symmetrical. Rixen and Schwarz also test the effect of investment asymmetry on the PE definition but find only a weak effect, which could be because their operationalisation was limited to only one aspect of the definition, the number of months' presence required for a construction site to become taxable. Nonetheless, both studies' findings with respect to withholding taxes seem to confirm Goldberg's (1983: 907) observation that 'treaty partners having unequal income flows will allocate jurisdiction to tax so as to achieve a more even balance between the two extremes'.

Looking across this literature, we can observe that researchers have faced a choice. Some have focused on a small sample of treaties or countries, conducting in-depth qualitative analysis, at the expense of breadth. Others have looked across a larger sample, but relying on easily available data, in particular WHT rates, at the expense of capturing the broader settlement embodied by each treaty. Provisions concerning the taxation of service provision, shipping and pensions, for example, have all been critical to the outcome of tax treaty negotiations between developed and developing countries (Hearson 2015b), but are only captured to date in small-sample studies.

2.2 Impact of tax treaties on investment flows

There is a small but significant body of research that studies the effect of tax treaties on investment flows. Until 2009, studies found a mixed effect: positive, neutral or, in some instances, negative, the latter attributed to tax-evading investors likely to be put off by the improved enforcement powers. Positive effects were more commonly found for treaties between developed countries than those involving a developing country (Barthel et al. 2009; Blonigen and Davies 2004; Coupé et al. 2009; Davies 2004; Egger et al. 2006; Kumas and Millimet 2009; Louie and Rousslang 2008; Neumayer 2007). All these studies treated the presence of a tax treaty as a binary variable, and did not consider whether heterogeneity in treaty content might lead to differing impacts on investment flows.

Two exceptions did take into account specific provisions within treaties. Lejour (2014) finds that lower dividend WHT rates in tax treaties increase the stock of bilateral FDI, attributing this result to treaty shopping effects rather than increases in ‘real’ investment. Azémar et al. (2007) study the effect of ‘tax sparing’ clauses, which do not form part of international models but are commonly included in treaties with developing countries to enhance the effect of tax incentives. They find that Japanese FDI into developing countries is sensitive to the presence of a tax sparing clause.

Some recent studies based on microdata have begun to differentiate between potential forms of investment, which may give an idea of the provisions of tax treaties that may be more or less important to investors. Davies et al (2009) and Egger and Merlo (2011) find a positive effect of tax treaties on investment, but limited to the extensive margin: in other words, treaties affected the initial decision to enter a country, but not subsequent increases in the size of the investment. This may suggest that treaty provisions that reduce the tax cost of repatriating profits through reduced WHT rates, which reduce the incentive to reinvest profits, have been more effective at attracting new investments. Alternatively, it may point to the role played by PE provisions, which encourage firms to limit reinvestment in a country to keep their activity below the threshold at which they become liable for source taxation on their profits.

Blonigen et al (2014) find that the investment-promoting effects of tax treaties are restricted to firms trading in differentiated products, for which it is likely to be harder to obtain the data on comparable transactions needed for transfer pricing assessments. They suggest that such firms are more likely to face double taxation because of the potential for disagreement between tax authorities over the pricing of their internal transactions, in which case they would place more value when making investment decisions on the availability of a tax treaty’s mutual agreement procedure (MAP), which provides explicitly for these circumstances. If this interpretation is correct, the source/residence balance in treaties may be less important than this procedural element.

For a given investor considering their tax cost rationally, it seems logical that particular treaty provisions may be more or less important than others. A treaty that severely restricts certain aspects of a developing country’s taxing rights may have a very different effect than one that

broadly leaves them unchanged, and an older treaty without modern provisions on, say, dispute resolution may have different effects to a state-of-the-art treaty. WHT rates, while most easily obtainable as a dataset and undoubtedly a salient factor for investors, may not be an accurate guide to the role a particular treaty plays in investment decisions. Examples of other important provisions include tax sparing, capital gains tax, and the risk that a particular operation – whether of the investing firm or its contractors – will cross the PE threshold.

2.3 Fiscal costs

The fiscal costs to developing countries of tax treaties have never been the subject of an empirical academic study, but non-governmental and intergovernmental organisations have attempted to draw attention to what they regard as a negative impact of the reduced WHT rates both through case studies (Hearson and Brooks 2010; Lewis 2013) and quantitative analysis (Weyzig 2013). The Dutch NGO SOMO estimated a cost to developing countries of €771 million in 2011, through lower WHT rates on dividend and interest payments (McGauran 2013). According to IMF (2014: 27) 'similar, very rough, calculations suggest that U.S. tax treaties cost their non-OECD country counterparts perhaps $1.6 billion in 2010'. A recent 'spillover analysis' of Ireland's tax treaties compares their content with other treaties and with the tax systems of treaty partners, concluding that:

> Most tax treaties concluded by Ireland contain provisions that are similar to those in tax treaties by other developed countries with the same developing countries, and they include several UN-type provisions considered favourable to developing countries (IBFD 2015b: 6).

The lack of comparable cross-country data on treaty content is only one aspect of the lack of research. While the dividend and interest flows that are subject to withholding taxes can be estimated from widely-available datasets, the volume of royalties and service fees, also affected by treaties' WHT provisions, is much harder to quantify. Estimates of the cost of other provisions, such as PE and capital gains, have never been published, in part because of the lack of treaty data, and in part because of the lack of transaction data on which to base estimates.

3 Methodology

This section outlines the process through which the *ActionAid Tax Treaties Dataset* was developed, including the data used and some of the methodological choices involved.

3.1 Sample selection

A pool of sixty sample countries, all in sub-Saharan Africa and Eastern and Southern Asia, and all defined by the World Bank as low- and lower-middle-income as of 1 January 2015, were selected.[3] In practice, this selection means that countries were selected only if they had a Gross National Income below US$4,125 per capita. The regional focus resulted in the exclusion of two low-income countries and nineteen lower-middle-income countries. Two G-20 members were also excluded from the sample: India and Indonesia. This reflects these countries' roles as capital exporters to the other sample countries, and their capacity to

[3] In its refreshed classification on 1 July 2015, the World Bank moved Mongolia to the upper-middle-income category, which would exclude it from the analysis, but it has been left in the dataset consistent with the 1 January 2015 sample selection date.

influence the content of the OECD model tax treaty through full membership of the OECD's Base Erosion and Profit Shifting project and, since that project concluded, the OECD's Committee on Fiscal Affairs.[4]

A list of 647 treaties concluded by the sample countries was compiled from the International Bureau of Fiscal Documentation's online database (IBFD 2015a), updated as of 1 December 2015. The list includes renegotiations of existing treaties, but excludes protocols, except for those that were signed at the same time as a treaty, which were coded as an integral part of the treaty itself. Some 128 treaties were excluded from the final coded dataset for the following reasons:[5]

- Concluded before independence or before 1970
- Text could not be obtained in English
- Departs significantly from the conventional content and structure of modern tax treaties.

The resulting dataset of 519 treaties represents a compromise between completeness and coherence of the sample, and capacity of the project team.[6] Anecdotally, treaty negotiators have stated in interviews that some information on the status of very recent unratified treaties in the IBFD database may not be accurate;[7] some older treaties also appear to be missing. Cut-off signature dates of 1970 to 2014 have therefore been used to maximise the accuracy of the data.

3.2 Coding strategy

The starting point for coding the content of each treaty is the OECD and United Nations model tax conventions (OECD 2014a; United Nations 2011). All treaties in the dataset follow the same structure as these models, and the standardised variation between the two allows for a simple binary coding structure.

Table 1 and Table 2 list these provisions, and indicate how they are converted to numerical values between 0 and 1 as follows:

- In most instances, the UN model makes amendments to the OECD model that grant the source country an additional right to tax. For example, paragraph 6 of article 5 of the UN model brings companies providing insurance services within the definition of PE, whereas they are not mentioned in the OECD model. There are sixteen provisions that vary in this way within the dataset, each of which has been coded as a binary value where 1 means that the UN model provision is included, and 0 that the OECD model version is used.[8] This is a subset of a list of thirty provisions identified by Wijnen and de Goede (2013), the reduced number reflecting the capacity of the project team and chosen on the basis of analytical interest.

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4 The full list of 60 countries is Afghanistan*, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi*, Cabo Verde, Cambodia*, Cameroon, Central African Republic*, Chad, Comoros*, Dem. Rep. Congo, Rep. Congo, Côte d'Ivoire, Eritrea*, Ethiopia, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Kiribati, Dem. Rep. Korea*, Lao PDR, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania*, Fed. Sts. Micronesia*, Mongolia, Mozambique, Myanmar, Nepal, Niger*, Nigeria, Pakistan, Papua New Guinea, Philippines, Rwanda, Samoa*, São Tomé and Principe*, Senegal, Sierra Leone*, Solomon Islands*, Somalia*, South Sudan*, Sri Lanka, Sudan, Swaziland, Tanzania, Timor-Leste, Togo, Uganda, Vanuatu*, Vietnam, Zambia and Zimbabwe. The 17 countries marked with an asterisk (*) are not mentioned in the accompanying dataset because they have not concluded any tax treaties.

5 A list of these excluded treaties is included within the dataset spreadsheet.

6 In the dataset there are 538 entries, because 19 treaties were signed between countries in the dataset, and have been included twice to permit comprehensive analysis for each sample country.

7 Author interviews, Kampala September 2014 and Phnom Penh September 2015.

8 Where there is no article at all, a value of 0 or 1 is given if there is a clear implication for source taxing rights from the exclusion of the article, or if this is unclear, the field is treated as missing data. This is elaborated in the metadata within the dataset.

- Eight provisions have a standardised numerical value, such as the maximum WHT rate on interest in article 11 of both models. To code these values, they have been scaled between 0 and 1, where each end of the scale is the least (0) or most (1) expansive taxing right obtained by a developing country in the sample. Two provisions, the WHT rate on service fees and the length of time for a services PE, have been converted to both binary and continuous values because they are often omitted from treaties, but when included they have a numerical value.
- Of the resulting twenty-four provisions, yielding twenty-six coded fields, one provision, the WHT rate on service fees, is included in neither model; another, the right to tax capital gains on sales of 'property rich' companies, is included in both models, but often excluded from negotiated treaties.
- Two provisions were included in the original coding but have not been incorporated in any subsequent analysis. The threshold of ownership share at which a taxpayer qualifies for a lower WHT rate on dividends was excluded because of the difficulty in interpreting it. In principle, a higher threshold gives the developing country more source taxing rights, but the UN model actually includes a lower threshold, 10 per cent, than the 25 per cent specified by the OECD model. According to its commentary, this is because 10 per cent is a 'significant portion' in developing countries that restrict foreign ownership to 50 per cent (United Nations 2011: 178). Furthermore, many tax treaties treat all dividends equally, and hence do not include a threshold, The second provision that was not further analysed is an administrative provision providing for mutual assistance in the collection of taxes, which is not a provision affecting the distribution of taxing rights.

The treaties were coded by a team of three LSE Masters students taking the LLM unit on International Tax Systems. Coders were given a short training course in the specific differences to be coded, a document highlighting the relevant passages in the UN model treaty text, and were tested with two sets of sample treaties before embarking on the full coding exercise. Coders were instructed to use a purposive interpretation in which non-standard wording was analysed in line with whether its meaning was most similar to the UN or OECD models, rather than simply checking for the presence of specific wording. The dataset's metadata explains how common alternative provisions were coded.

Each treaty was coded independently by two coders, and all disagreements were reconciled by the project manager. Based on spot checks, there may be on average one remaining error in every four treaties, implying 99 per cent accuracy. The dataset is designed for cross-country and cross-time comparisons, which has required eliminating nuance and heterogeneity in order to code each provision with a single word or number, and so claims about particular provisions of individual treaties drawn from this dataset should always be checked against the treaty text.

Table 1 Treaty provisions coded in the dataset

Item	UN model reference	Description
5i	UN model article 5(3)(a) length	PE definition: construction PE length in months
5ii	UN model article 5(3)(a) supervisory activities	PE definition: supervisory activities associated with construction
5iii-b	UN model article 5(3)(b) included	PE definition: service PE included
5iii-c	UN model article 5(3)(b) length	PE definition: service PE length in months
5iv	UN model article 5(4)(a)	PE definition: delivery exception to PE
5v	UN model article 5(4)(b)	PE definition: delivery exception to PE
5vi	UN model article 5(5)(b)	PE definition: stock agent PE
5vii	UN model article 5(6)	PE definition: insurance PE
5viii	UN model article 5(7)	PE definition: dependent agent extension
7i	UN model article 7(1)(b&c)	Limited force of attraction
7ii	UN model article 7(3)	No deduction for payments to head office
8i	UN model article 8(2)	Source shipping right as a %
10i	UN model article 10(2)(a) FDI dividends	WHT rate: qualifying [FDI] dividend WHT in %
10ii	UN model article 10(2)(a) threshold	Threshold shareholding to qualify for lower WHT rate in %
10iii	UN model article 10(2)(b) portfolio dividends	WHT rate: other [portfolio] dividend WHT in %
11i	UN model article 11(2) interest	WHT rate: interest WHT in %
12i	UN model article 12(2) royalties	WHT rate: royalties WHT in %
12ii	UN model article 12(3) television	Royalty definition: films or tapes used for radio or television broadcasting
12iii	UN model article 12(3) equipment	Royalty definition: industrial, commercial or scientific equipment
12iv-b	Services WHT included	Management or technical fees included
12iv-c	Services WHT rate	WHT rate: management or technical fees rate
13i	UN model article 13(4)	Source capital gains on 'Land rich' company
13ii	UN model article 13(5)	Source capital gains on shares other than those covered by 13
16i	UN model article 16(2)	Source taxation of earnings by top-level managerial officials
18i	UN model article 18(2)	Shared taxation of pensions
18ii	UN model article 18(2/3)	Source taxation of social security pensions
21i	UN model article 21(3)	Source taxation of other income
27i	UN model article 27	Assistance in tax collection

Table 2 Indices based on the dataset

	Permanent establishment	Withholding tax	Other	Source index	UN	WHT Rates
5i	*			*	*	
5ii	x			x	x	
5iii-b	x			x	x	
5iii-c	*			*	*	
5iv	x			x	x	
5v	x			x	x	
5vi	x			x	x	
5vii	x			x	x	
5viii	x			x	x	
7i			x	x	x	
7ii			x	x	x	
8i			x	x	^	
10i		*		*		*
10ii						
10iii		*		*		*
11i		*		*		*
12i		*		*		*
12ii		x		x	x	
12iii		x		x	x	
12iv-b		x		*		
12iv-c		*		*		*
13i			x	x		
13ii			x	x	x	
16i			x	x	x	
18i			x	x	^	
18ii			x	x	x	
21i			x	x	x	
27i						

x included as binary * included as continuous ^ included with value of 0.5

3.3 Indices

In addition to allowing for analysis by provision, the dataset can be used to amalgamate the content of a treaty into an expression of the overall settlement it contains. To illustrate this, six indices based on the dataset have been supplied within the downloadable copy, and will be used in this paper.[9] Each index takes a value between 0 and 1 for the treaty, representing the average value of the variables it contains. The indices are detailed in Table 2, and specified as follows:

- The ‘PE’ index includes nine coded fields related to PE, drawn from article 5 of the model treaties.
- The ‘WHT’ index includes eight fields related to WHT, drawn from articles 10, 11 and 12 of the models.
- The ‘Other’ index includes the remaining nine fields, drawn from articles 7, 8, 13, 16, 18 and 21 of the models.
- The ‘Source’ index incorporates all twenty-six fields from the PE, WHT and Other indices, to reflect the overall balance of the treaty.
- The ‘WHT Rates’ index includes only the five WHT rates. Where there is no provision permitting source WHT on services, the rate is treated as zero.

[9] Users of the dataset can easily construct their own indices using the coded material supplied.

- The 'UN' index employs a strict analysis of only the provisions that vary between the UN and OECD models. It excludes, for example, WHT rates, since these are not specified in the UN model. In some cases, such as source taxation of profits from shipping in article 8, the UN model gives the option of an article that is substantively similar to the OECD model, or an alternative with greater source taxation rights. In these instances a value of 0.5 is used to reflect the UN model's unclear position.

Two provisions are effectively double-coded, because they are included as both binary and continuous variables. The first of these, the 'services PE' provision in article 5(3) of the UN model, expands the definition of PE to cover foreign service providers that may not otherwise be taxable by the source country on their profits, provided they are present in the source country for more than a specified number of days in a given year. The second, a provision permitting the source country to levy withholding taxes on technical service fee payments up to a specified maximum rate, is not currently included in either the UN or OECD models. While this effectively gives a double weighting to these two provisions, it encapsulates the fact that negotiation in these cases covers both whether to include them at all, and at what threshold. It also reflects the strong difference in preferences between developed and developing countries over the taxation of services, which can be seen, for example, in lengthy debates at the UN tax committee over the subject (e.g. United Nations 2014: 19-22).

3.4 Limitations

The sample selection, coding scheme and index construction all entail methodological choices that have certain limitations. This section briefly highlights several such constraints, both to make the reader aware of them and to suggest avenues for improving the dataset in future work.

First, the dataset disregards national tax systems. This means that, for example, the presence or absence of capital gains tax provisions is scored the same whether or not the sample country has a capital gains tax in place. WHT rates are only scored as absolute values, not relative to the statutory rates that they may reduce. Of course, one might argue that the act of signing a treaty should be conceptualised in terms of taxing *rights*, rather than tax *revenue*. In this case, a restriction on the right to tax capital gains, for example, is a sacrifice of taxing rights even if no capital gains tax exists in a country at the time of signature, because the treaty also binds future governments in the event that they were to introduce such a tax.

While it would clearly have been preferable to provide the option of such a contextualised analysis of treaties, doing so accurately and completely would have required the compilation of a new dataset not in existence, and a more detailed coding scheme. For example, while data on statutory WHT rates is the most readily available, the sources that supply it in the form of a dataset do not usually include the rates on service fees, nor do they specify the details of tiered rates where there are several such tiers. Furthermore, even for WHT rates there is no historical dataset covering 1970 to 2010; thus, even if it were possible to analyse the treaties in the context of present-day tax systems, it would be a much more difficult process to analyse them in the context of tax systems at the time of negotiation.

A second limitation is that the scoring within the dataset does not consider the interaction of different articles. For example, a more expansive definition of royalties (fields 12ii and 12iii) is considered positive in the scoring system even when the treaty prohibits the taxation of royalties. As a more contentious example, according to one view that has been debated at the UN tax committee, the exclusion of a service fees WHT article from a treaty may not prevent a country from levying such a tax if service fees income is considered to be covered by the 'other income' article (field 21i). While the scoring system could have attempted to

take into account such interactions, it was felt that a simple approach that avoided issues of legal interpretation was preferable. Other users of the dataset may choose to take a different approach.

Third, certain important clauses are missing entirely from the dataset. One example is 'tax sparing' provisions within the article covering double taxation relief. Such provisions have been important factors in treaty negotiations, affecting the overall balance of taxing rights. They appear also to be a component of tax treaties with a demonstrable impact on investment flows. Although tax sparing clauses were included in the original schema, the heterogeneity of provisions resulted in a high error rate and so this data was excluded at an early stage of coding. Another example is the range of provisions designed to limit treaty shopping, both within individual articles and as a stand-alone article in its own right. These are increasingly important in any assessment of the costs and benefits of treaties, but they are also too heterogeneous to produce an accurate, comparable picture across multiple treaties, and their interaction with national laws is especially important, so they were not included in this version of the dataset.

Fourth, the indices based on the dataset do not employ any weighting strategy, aside from the double-weighting of services provisions discussed above. This means that, for example, the inclusion of 'videos and tapes for radio and television broadcasting' in the definition of royalties has the same effect on the overall index value as the value of the royalty rate itself. While it seems appropriate that some weighting should be applied to give the rate in that example more importance than this aspect of the definition, such a weighting would be undoubtedly subjective and would be likely to vary depending on the economic relationship between particular signatories and their respective tax systems. Thus it seems very difficult to arrive at a valid weighting approach.

4 Outcomes using the source index

This section provides some highlights and descriptive statistics based on the dataset, and sets them in the context of existing research, to show how this potentially more comprehensive approach might inform and challenge existing understandings of treaty negotiations.

4.1 A growing divide between OECD and non-OECD tax treaties

There is no generalised trend in the dataset towards a reduction or increase in the average negotiated outcome. This is consistent with the results given by Wijnen and de Goede (2013), who compare their figures for 1,587 treaties signed by at least one non-OECD country during the period 1998-2013 with an earlier study covering 697 treaties signed during the period 1980-1997. Twenty provisions were examined consistently across both studies, and in both periods the average number of UN provisions contained in a treaty signed by this group was 6.9.[10] The next few figures will demonstrate that this remarkable consistency across time at the aggregate level masks some considerable variation under the surface.

The next two figures show that, if different groups of countries within the dataset are analysed, opposing trends towards more source- or residence-based treaties can be observed. Each point in the figures represents a treaty, and the trend over time, derived from an ordinary least squares regression, is displayed as a line. Separating by region, as Figure 1 does, illustrates that treaties signed by Asian countries have consistently more source-

[10] Author's own analysis of results presented in Table 12.

friendly taxing provisions than African countries, and that the gap appears to be widening over time: since the mid-1990s, no African country has concluded a treaty with a source index greater than 0.7, in contrast to numerous Asian countries. Figure 2 shows the same data, this time split by whether or not the treaty partner is an OECD member. While the trend for treaties with non-OECD countries is for more source-friendly provisions, where treaties are concluded with OECD countries they are becoming more residence-based over time.

Figure 1 Overall negotiated content by date of signature and region

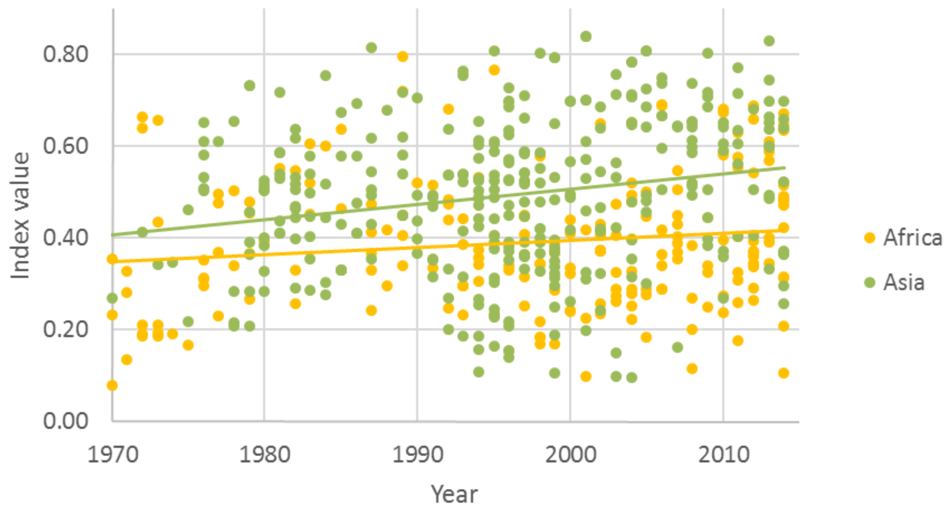


Figure 2 Overall negotiated content by date of signature and type of treaty partner

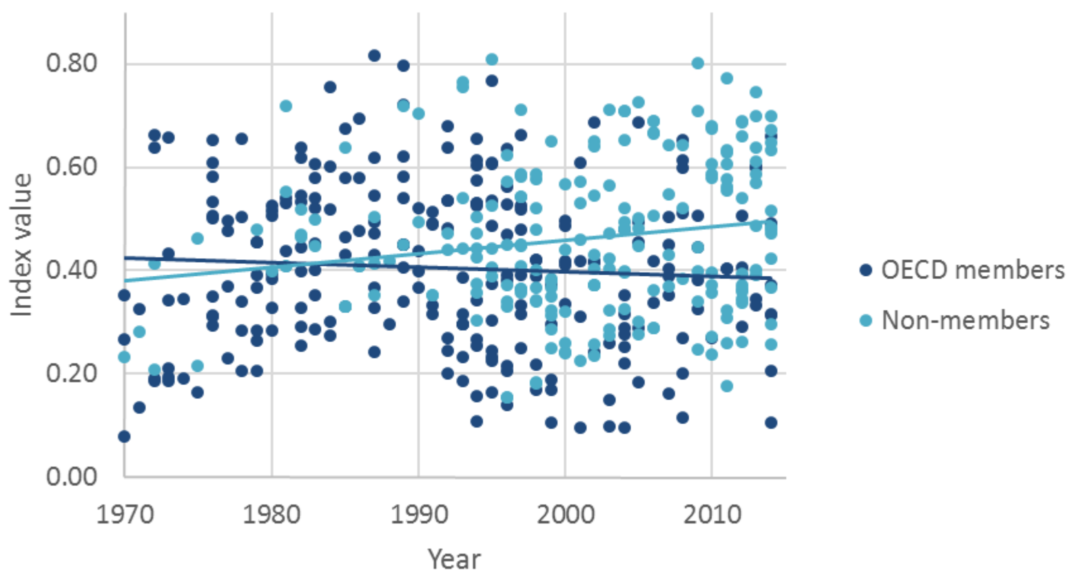


Table 3 presents the results of a simple regression that disentangles these trends. Year of Signature is specified beginning with 1970, so a value of 1 means 1970, a value of 2 means 1971, and so on. Three country groupings are used: the sample country's region and its human development status (Least Developed Country or not), and whether or not the treaty partner is an OECD member. The results are presented separately for African and Asian countries, and the combined results, along with descriptive statistics for each variable, are available in the Annex tables to this paper.

Table 3 Simple regression of source index against certain country groups, 1970-2014

	Asia		Africa	
	(1)	(2)	(3)	(4)
Year of Signature (1970=1)	0.00258***	0.00590***	0.000846	0.000974
	(2.963)	(4.731)	(1.012)	(0.582)
Sample country LDC	-0.0767***	-0.00736	-0.0777***	-0.200***
	(-3.486)	(-0.111)	(-3.962)	(-4.364)
Partner country OECD	-0.0828***	0.0806*	-0.0572***	0.0801
	(-4.544)	(1.675)	(-2.643)	(1.464)
Partner country OECD * Year of Signature		-0.00626***		-0.00476***
		(-3.659)		(-2.831)
Sample country LDC * Year of Signature		-0.00244		0.00443***
		(-1.120)		(2.958)
Constant	0.474***	0.379***	0.441***	0.417***
	(17.00)	(10.03)	(13.34)	(7.401)
Observations	328	328	209	209
R-squared	0.131	0.167	0.116	0.182

t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

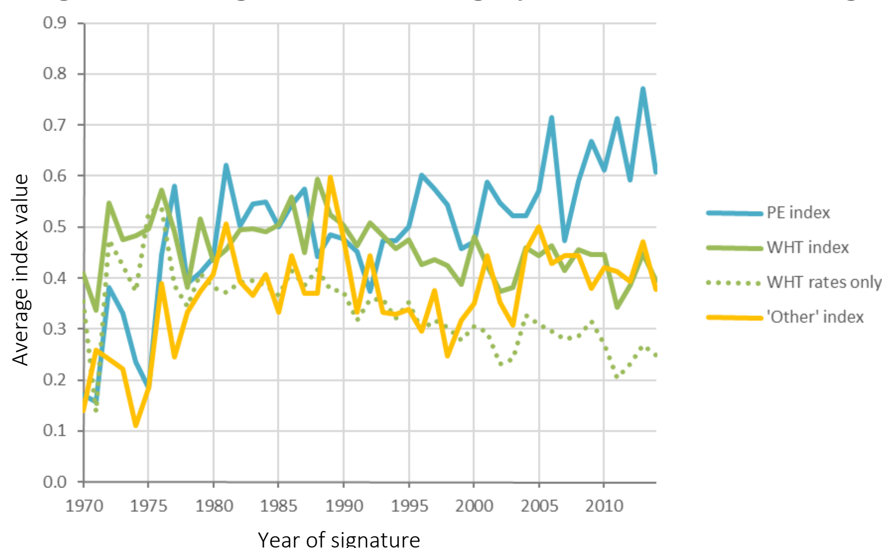
The visual trends observed in Figure 1 and Figure 2 are confirmed by these results. The significant coefficient of Year of Signature in column 1 indicates that the overall content of treaties signed by Asian countries has become more source-orientated over time: for each year after 1970, the source index, which runs between 0 and 1, increases by 0.0026; over the forty-four years from 1970 to 2014 this corresponds to an increase of 0.11. The source index is compiled from twenty-six coded fields, and so an increase in the index of 0.11, or eleven percentage points, is equivalent to the inclusion of an additional three pro-source taxation provisions in 2014 compared to 1970. In column 2, the coefficient of the interaction term between Partner Country OECD and Year of Signature largely cancels out the coefficient of Year of Signature alone. This indicates that the increase in source taxation provisions in Asian sample countries' treaties is only present in treaties with non-OECD members. For each year after 1970 the source index increases by 0.0059 – over the forty-four years of the sample period this corresponds to an increase of 0.26, meaning that a treaty signed between an Asian sample country and another non-OECD country in 2014 would be expected to have seven more source-orientated provisions than one signed in 1970.

For the African countries as a whole, there is no significant generalised trend over time, but such time-related trends are found when country group variables are interacted with the time variable (column 4). In 1970, a treaty signed by an African Least Developed Country (LDC) would be expected to have a source index value of 0.20 lower than one signed by other African countries, equivalent to five fewer source-orientated provisions. This gap narrows by 0.0044 for every year after 1970, such that it is eliminated by the end of the sample period in 2014. African treaties with OECD countries become less source-orientated over time, a change in the index each year of -0.0048, or -0.21 over the whole sample period, equivalent to including five fewer pro-source taxation provisions in 2014 compared to 1970.

4.2 PE definitions becoming broader as WHT rates fall

Figure 3 shows the aggregate trends in three sub-indices that incorporate three categories of provision across the whole sample. PE provisions have become more source-based over time, which means that recent treaties expand the circumstances in which source countries can tax foreign companies' profits within their borders. In contrast, WHT rate provisions have become less source-orientated, which is largely because recent treaties set lower maximum rates for such taxes than in the past, as shown by the dotted green line in Figure 3. The IMF's (2014) observation that treaty WHT rates are declining over time is therefore confirmed in this sample, but also shown to be only half the story.

Figure 3 Average values of category indexes for treaties signed in a given year



The more detailed regression results in the Annex further disaggregate these results.

For Asian countries:

- PE provisions are becoming more source-based over time, but the trend is less pronounced in their treaties with OECD countries;
- WHT rates are falling at a similar pace across the board;
- other provisions are becoming more residence-based in treaties with non-OECD members, but more source-based in treaties with other countries.

For African countries:

- PE provisions are becoming more residence-based in treaties with OECD countries, but more source-based with other countries;
- WHT provisions are becoming more residence-based at twice the pace in treaties with OECD countries than elsewhere;
- notably, while African LDCs start from a lower baseline source index value in every category of provision, over time their PE and WHT provisions become more source-based, and at a faster pace than other countries in the region.

4.3 Source/residence balance in treaties signed by selected countries

Figure 4 illustrates how the negotiated settlement captured by the source index has changed over time for particular countries, and how it varied between countries.

Figure 4 Overall settlement in treaties signed by selected countries

Figure 4a

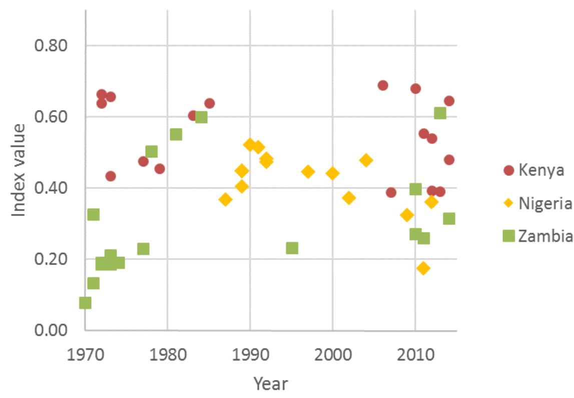


Figure 4b

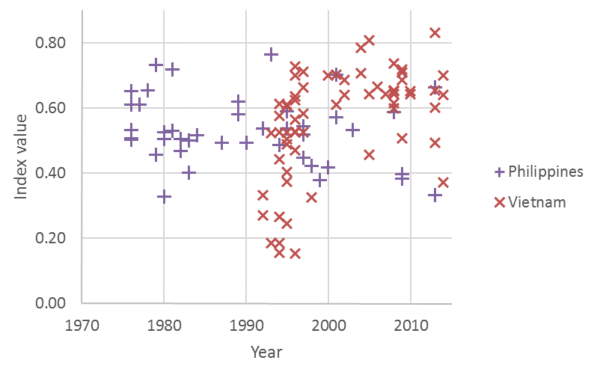


Figure 4c

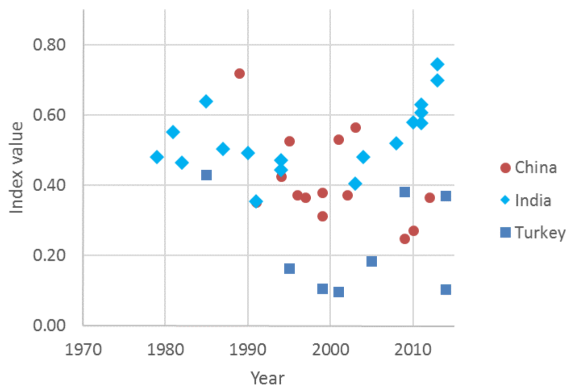


Figure 4d

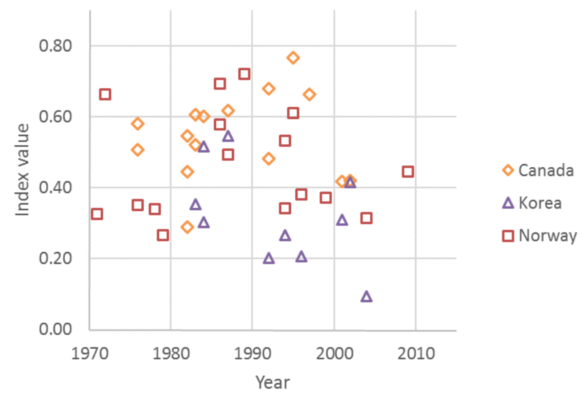
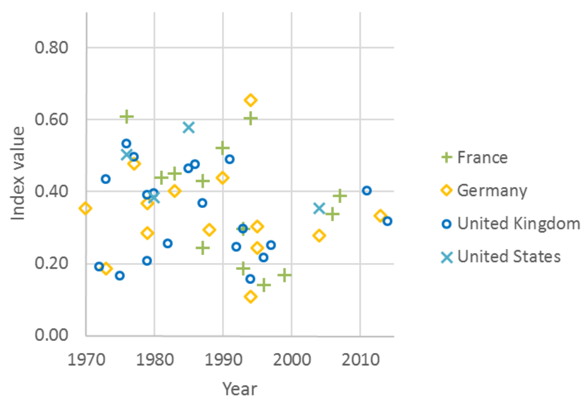


Figure 4e



Figures 4a and 4b show selected sample countries from Africa and Asia. During the 1970s, there was a wide disparity between the content of treaties signed by Zambia and Kenya (Figure 4a), with the former concluding treaties with a much lower source index value than the latter. Their negotiated outcomes converged somewhat from the 1980s onwards, as Zambia's treaties became more source-based. Nigeria, shown in the same chart, saw the source taxing rights in its treaties decline over the sample period.

Two Asian countries are highlighted in Figure 4b. The Philippines, which had concluded treaties intensely during the late 1970s and early 1980s, barely paused this process after regime change in 1986, and has displayed a small declining trend in the source content of its treaties over the whole sample period. In contrast, a clear structural break in Vietnam's treaty negotiations seems to be observable in around the year 2000, with a shift towards more consistently source-based treaty content after this time.

It is interesting to note that momentous regime change in Zambia in 1991 and in the Philippines in 1986 did not produce a marked change in the overall outcome of either country's treaty negotiations, as measured by the source index, which in both cases remains largely consistent before and after. This may reflect the influence of past precedent on present negotiating capability, structural elements of tax systems that remain consistent across different regimes, or the relative autonomy of tax treaty negotiators from political control.

Figures 4c-4e show equivalent data categorised by treaty partner. Figure 4c compares selected emerging economies. It confirms Li's (2012) suggestion that China has begun to favour more residence-based provisions in its treaties as its status as a capital exporter grows. India's treaties, in contrast, have become more source-based. Turkey emerges as a particularly residence-based negotiator. Figure 4d, which compares several smaller industrialised economies, shows Canada and Norway to be willing to concede more source-based provisions than Korea.

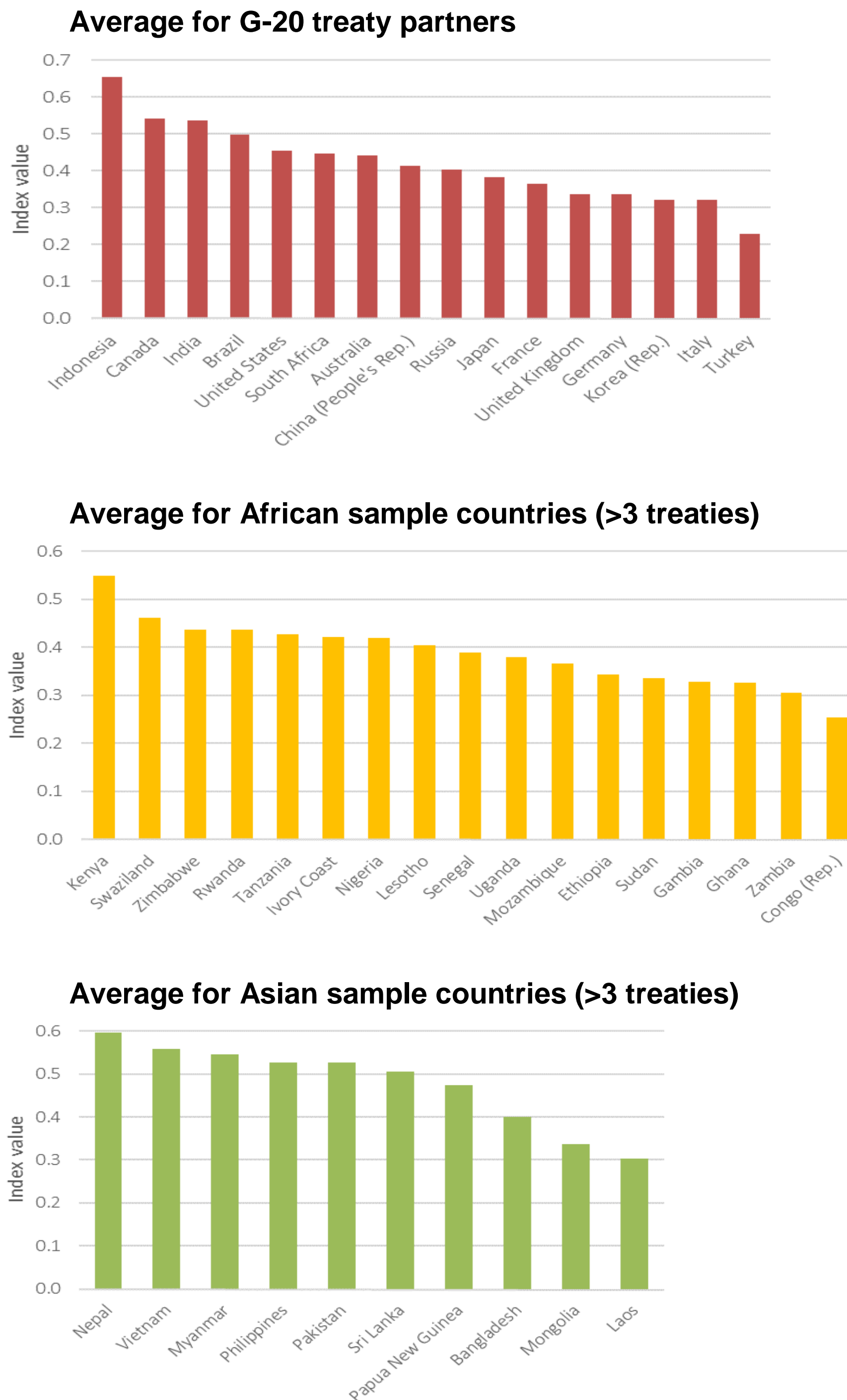
Figure 4e concentrates on some larger industrialised economies. It is notable that, historically, the source/residence balance in these countries' treaties with sample countries has varied widely, suggesting considerable room for negotiation based on the preferences and negotiating capabilities of developing country partners. Since 2000, however, the small number of treaties signed by these countries with sample countries seems to have converged around a more consistent source/residence balance at the more residence-based end of past precedent, which may indicate a hardening of negotiating stance.

Conceptualising treaty negotiations as cooperative bargaining leads to the prediction that greater asymmetry of investment flows would lead to more source-based tax treaties (Chisik and Davies 2004; Rixen and Schwarz 2009). A more realist, power-based explanation would expect the opposite. In fact, the outcome suggested by these diverse results is more complex. This is illustrated more clearly by Figure 5, which shows the average source/residence balance by country, for all treaties signed by sample countries during the sample period. In their negotiations with the sample countries, Turkey emerges as the most residence-based negotiator in the G-20, and Indonesia the most source-based. The largest capital exporters are in the middle of the distribution, while countries at both the more source-based and more residence-based ends are middle-sized countries that may be less significant as sources of investment capital into the sample country, and less able to use economic and political power to obtain better outcomes.

The variation within the developing countries in the sample also suggests that neither investment asymmetry nor power dynamics alone are sufficient to explain the outcome of treaty negotiations. Larger economies such as Kenya, Nigeria and Zambia are found at the source-based end, middle and residence-based end of the African distribution respectively.

In Asia, two of the smallest economies (Laos and Nepal) are found at either end of the distribution, while there is considerable consistency among the larger economies (Vietnam, the Philippines and Pakistan).

Figure 5 Average overall settlement in treaties signed by sample countries



The results outlined in this section have shown that much of the conventional wisdom about tax treaty negotiations is partial at best. The clear trend towards declining source taxing rights in WHT provisions is counterbalanced by greater source taxing rights in other areas. There is important variation across region, development status and type of treaty partner. Longstanding OECD members are not necessarily the toughest negotiators with developing countries, in comparison to emerging economies. This latter group also displays some of the

clearest variation in negotiating positions, suggesting that discussion about the impact of growing influence of the BRICS countries on international tax rules must consider the differences, as well as similarities, between these countries' positions.[11] The next section will delve deeper into the trends in individual provisions that underpin this aggregate picture.

5 Selected individual provisions

The previous section illustrated how trends towards more source taxation in some parts of treaties have been counteracted by trends towards less source taxation in others. The next few figures delve further into this detail by comparing the changes across time and across countries for four categories of treaty provision that are the subject of some debate. The first figure in each subsection shows the average number of treaties signed each year that included particular provisions that expand the source country's taxing rights, highlighting variation over time. The remaining figures highlight variation across countries, divided into three groups: G-20 developed countries, African sample countries, and Asian sample countries.[12]

5.1 Taxation of services

Figure 6 compares two provisions that give the source country the right to tax foreign companies providing services. The UN Article 5(3)(b) services PE provision, in blue hollow circles, allows the source country to tax a service provider's profits if they are physically present in a country for more than a certain length of time stipulated in the treaty, in circumstances where they would not otherwise meet the PE test. Provisions permitting source taxation of technical service fees, indicated by purple solid circles, allow the source country to levy a withholding tax on the gross value of fees remitted paid to foreign service providers from the treaty partner, even if they are not physically present. Both provisions are becoming more common, but only the services PE provision is present in the majority of recent treaties concluded by the sample countries: it is present in over 80 per cent of treaties signed in the last five years, suggesting it has become a widely accepted norm.

Figure 6 Prevalence of treaty provisions by year of signature: services

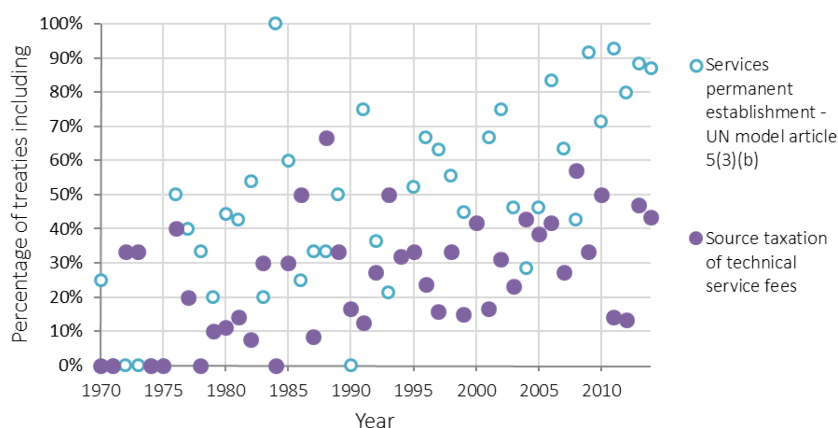


Figure 7, below, shows the breakdown of these provisions in the treaty networks of individual countries. Red indicates that both the services WHT and services PE are present, while

[11] The BRICS group of countries consists of Brazil, Russia, India, China and South Africa.

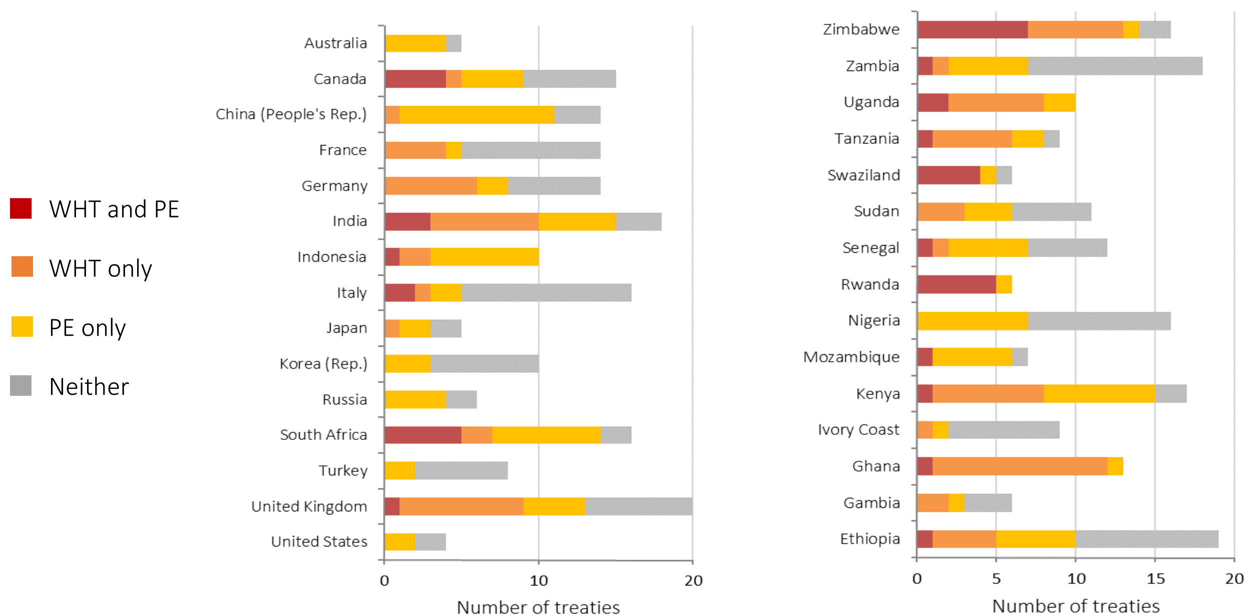
[12] In each of these figures, countries with fewer than five treaties have been excluded.

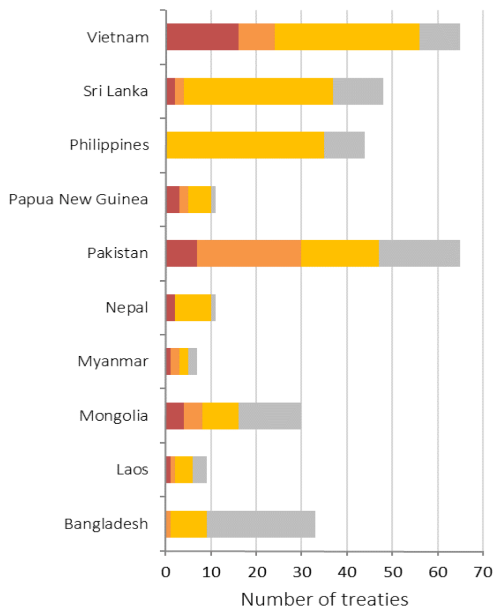
orange indicates just the former, and yellow only the latter. The grey part of each bar shows treaties that include neither provision. Almost all the developing countries shown have at least one form of services taxation provision in at least half of their treaties, suggesting that this provision is a strong preference. Bangladesh, Ivory Coast, Nigeria and Zambia are the only exceptions.

There are significant regional differences: in Africa, these two provisions are roughly as popular as each other, with each appearing in around 40 per cent of treaties; in Asia, while the service PE is found in well over half of all treaties, the services WHT appears in less than a quarter. Consistent with this trend, in several African countries, including Ghana, Uganda and Tanzania, there seems to be a marked preference for the services WHT; in Asia, dominated by Vietnam, Sri Lanka and the Philippines, the WHT provision is much less common than the PE provision.

Turning to the G-20 countries, there is again considerable national variation. Five countries have never conceded a services WHT provision, suggesting a firm negotiating position. India is the only country to have included a services WHT in a majority of its treaties, which is not surprising given its longstanding support for the provision; this stands in marked contrast to China, which has only done so once in a treaty with the sample countries. The UK has the second largest share of treaties with a service WHT, nine out of twenty.

Figure 7 Provisions on source taxation of services in treaties signed by sample countries





5.2 Capital gains

The issue of 'indirect transfers' of capital has become an increasing subject of discussion in debates about developing countries' corporate tax policy, in particular given a string of high-profile examples in which companies incorporated in developing countries have changed hands through the sale of intermediate holding countries in other jurisdictions (Business Daily 2014; Hearson 2015a; IMF 2014). Both the UN and OECD models contain provisions designed to tackle this in the case of companies whose value is constituted primarily of real property situated in the source country, such as mines and mobile phone networks. This provision, shown by yellow hollow squares in Figure 8, is becoming more popular and now included in more than half of treaties signed by the sample countries, but it is surprising that it is not more popular given its presence in both the OECD and UN model treaties.

Figure 8 Prevalence of treaty provisions by year of signature: capital gains

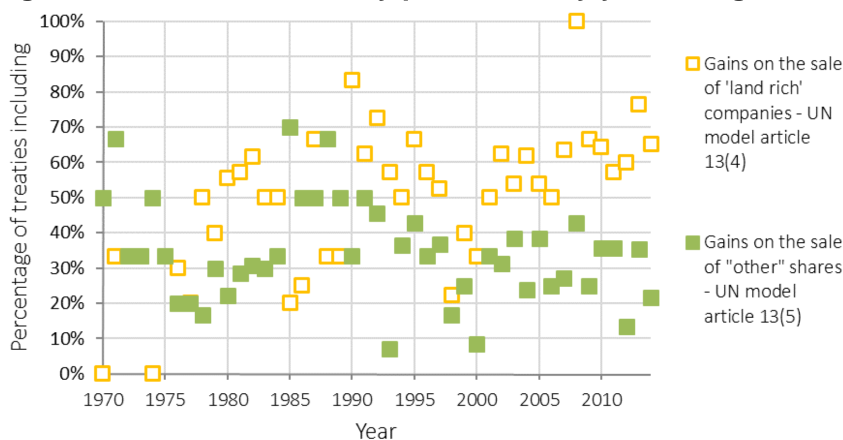


Figure 9 gives the cross-national breakdown. While some G-20 countries, in particular Australia, Canada, China and France, have included this provision in most of their treaties with sample countries, it is excluded from the majority of treaties signed by some others, notably Turkey, Russia, Italy and Germany. Certain developing countries, particularly Vietnam, the Philippines, Bangladesh and Ghana, also seem to consider it especially important, including it in most of their treaties, while for others it is not as common. For a

country without a capital gains tax, such as Zambia (which has few treaties with this provision), it may seem an easy sacrifice to make in the horse-trading of negotiations, but such an explanation does not apply to countries such as Uganda (which also has few treaties with this provision) that seek to tax gains in precisely the circumstances prohibited in the absence of this clause.

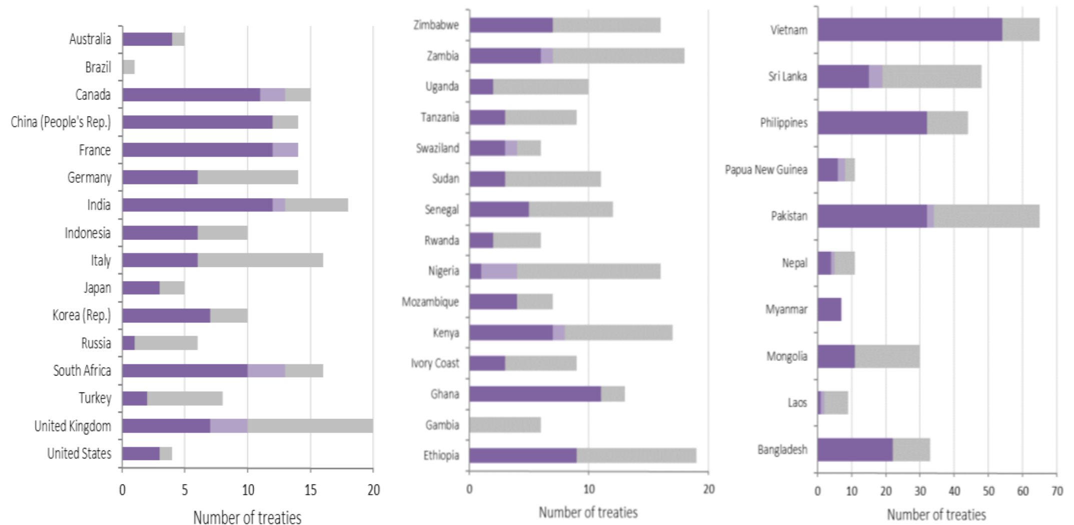
Figure 9 Provisions on source taxation of capital gains in treaties signed by G-20 members with sample countries

Article 13(4): source taxation of gains from the sale of 'property rich' companies

With

No article

Without

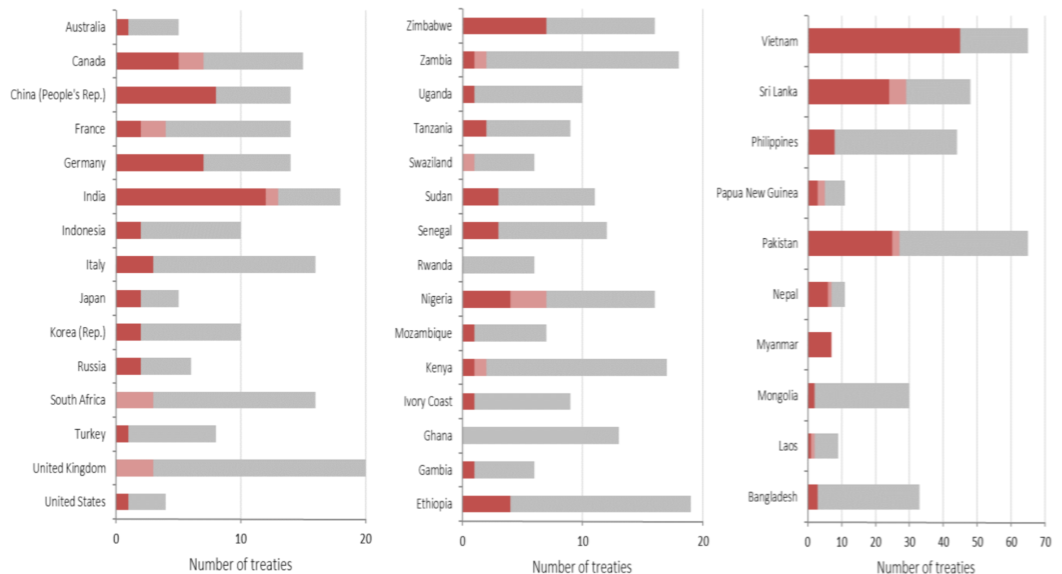


Article 13(5): source taxation of gains from the sale of 'other' shares

With

No article

Without

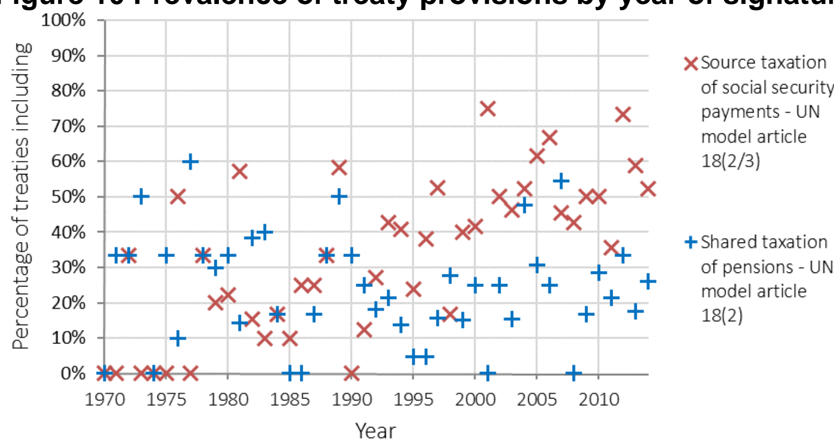


Turning to paragraph 13(5) of the UN model, which permits source taxation of gains from shares in other companies resident in the source country, it is surprising to note from Figure 8 that this provision is becoming less common over time. Figure 9 suggests that national preferences may be stronger yet here: the UK and South Africa have never conceded this provision to a sample country, although they have signed a number of treaties from which capital gains tax is omitted altogether; only India and China have agreed to include it in a majority of their treaties. Among sample countries, Vietnam, Myanmar and Nepal are the only countries to have secured this provision in a majority of their treaties, while it does not feature in any treaties signed by Swaziland, Rwanda and Ghana.

5.3 Pensions

Figure 10 shows the changing prevalence of two provisions under the 'pensions' article over time. There has been little change in the popularity of provisions giving developing countries a share of the right to tax pensions in general, shown in blue. As Figure 11 indicates, G-20 countries seem sharply divided on this provision, with some countries willing to concede it in most treaties, and others never having given it in any treaty with a sample country. Developing countries also show markedly different preferences, for example Kenya having obtained it in most treaties, while it does not seem to be an important provision for Ghana.

Figure 10 Prevalence of treaty provisions by year of signature: pensions

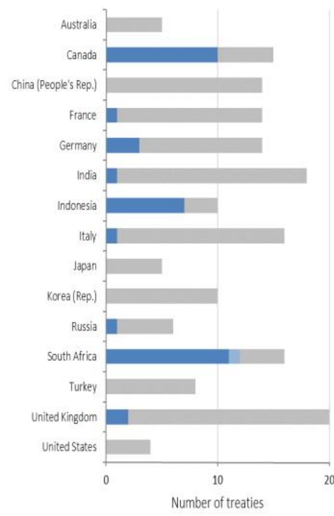


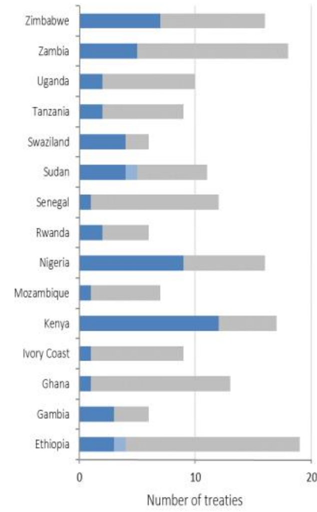
Source taxation of social security pensions, shown in red in Figure 10 and turquoise in Figure 11, is becoming noticeably more common over time, and now features in half of all treaties signed by sample countries. It is interesting to note that some countries' positions on this provision are diametrically opposed to their positions on the previous pensions provision: it features commonly in the treaty networks of France and China, for example, which had only concluded one treaty granting source taxation of pensions between them.

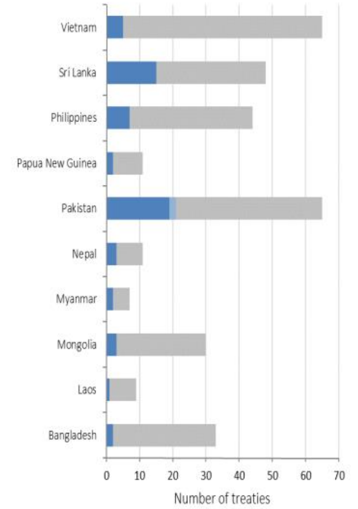
Figure 11 Provisions on source taxation of pensions and social security payments in treaties signed by sample countries

Article 18(2)
shared taxing right over pensions

- With
- No article
- Without

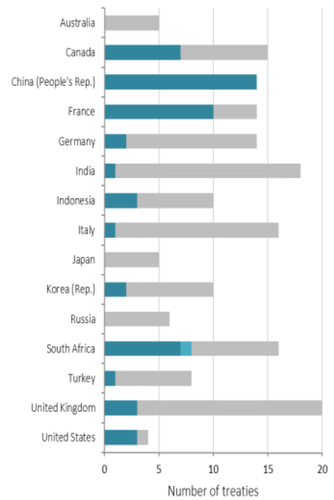


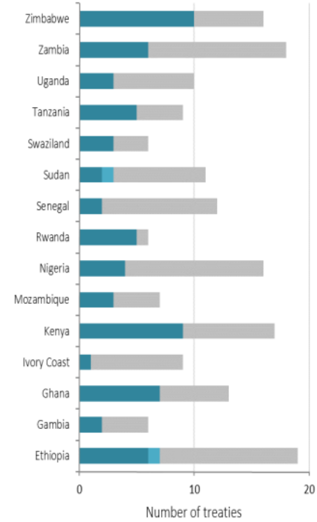


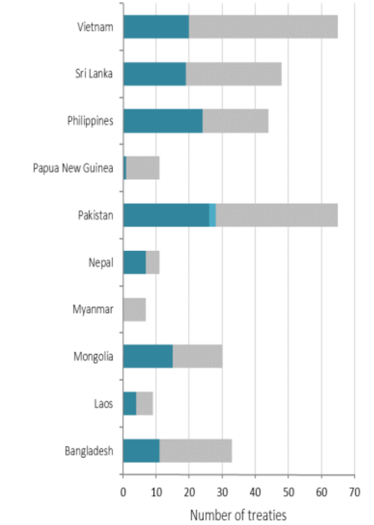


Article 18(2/3)
source taxation of social security payments

- With
- No article
- Without



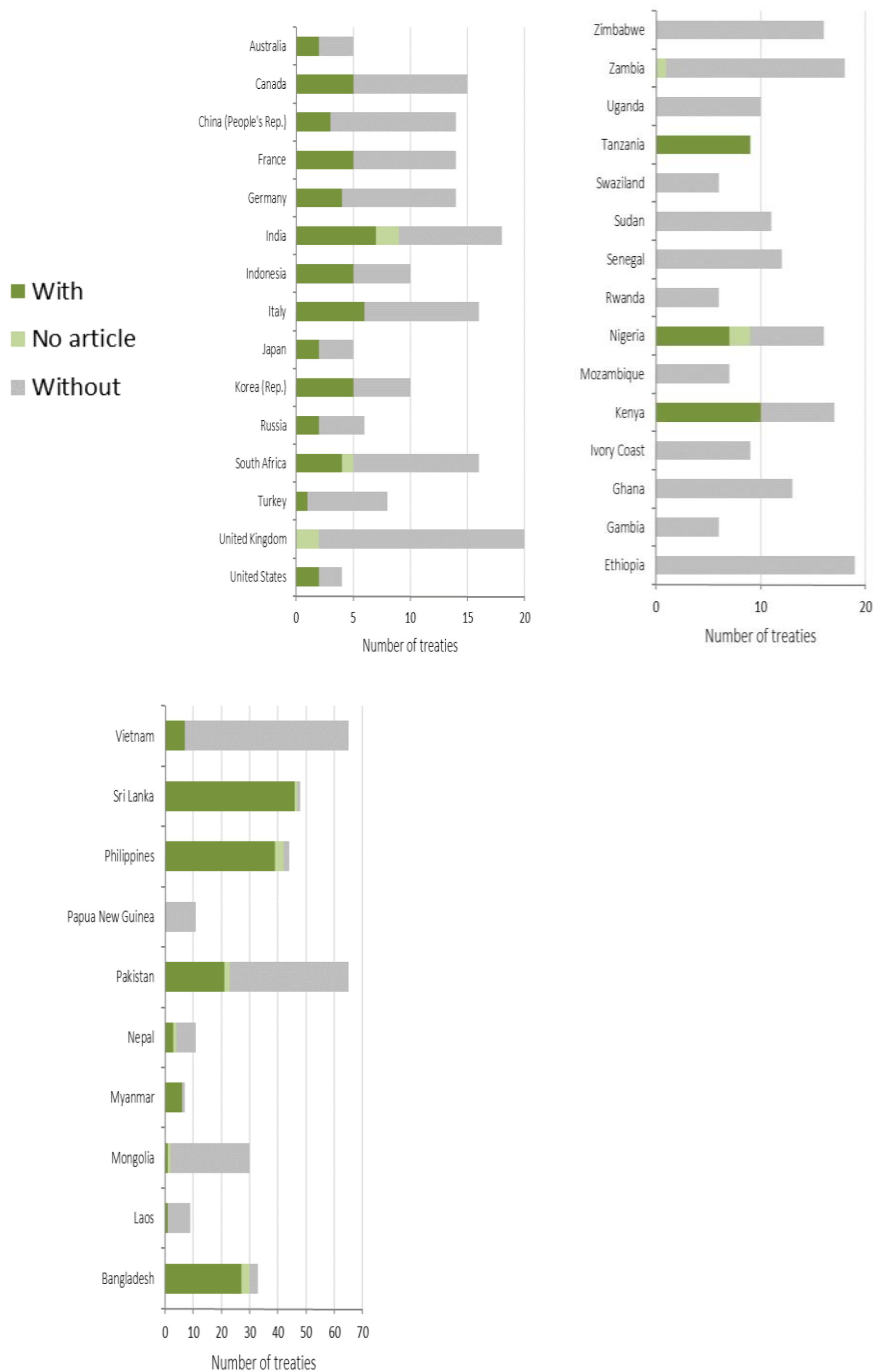




5.4 Shipping

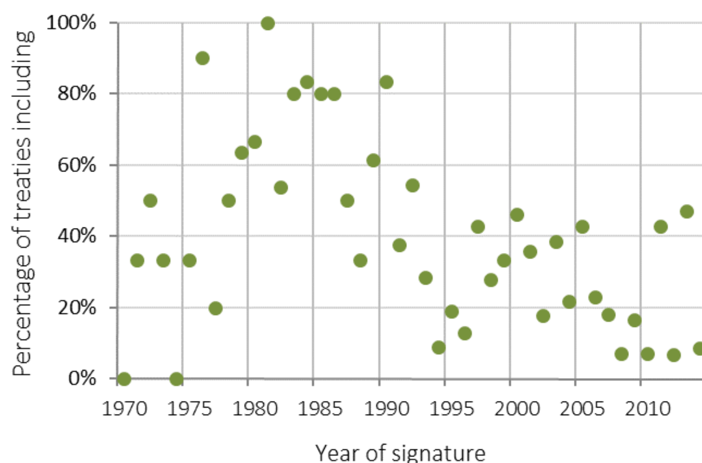
The source country's right to tax the profits made by shipping companies operating in its waters and using its ports is one of the most contentious provisions in negotiations for some countries. Figure 12 illustrates that all G-20 countries apart from the UK have been willing to include it in some treaties with the sample countries, the latter omitting this article where it would otherwise create a stalemate. Looking at the developing countries reveals how strongly preferences vary. In Africa only three countries have this provision in any treaties, and for each of these it appears in a majority of their treaties.

Figure 12 Provisions on source taxation of shipping in treaties signed by sample countries



While Asia appears to be more heterogeneous, this reflects the number of intra-region treaties, so that countries such as Nepal and Vietnam, for whom source shipping taxation is not in practice a priority, have a small share of treaties with regional partners that nonetheless include it. For Sri Lanka, the Philippines, Tanzania and Bangladesh, source taxation of shipping appears to be red line. Nonetheless, as Figure 13 shows, such provisions are becoming less common over time in treaties signed by the sample countries.

Figure 13 Prevalence of treaty provisions by year of signature: shipping



This section has illustrated that there are marked variations in the trends across countries and over time for different articles. In the contentious area of taxation of services, with a clearly-drawn division of interests between developed and developing countries, most countries have considerable variation within their treaty networks. This indicates a willingness on all sides to compromise or, perhaps, a change in countries' positions over time, and suggests that developing countries seeking to strengthen their taxing rights may have room to manoeuvre. In contrast, some developed countries' opposition to source taxation of capital gains from the sale of shares, and of pensions and social security payments, appears to be much harder to challenge. As for developing countries, shipping is the only article on which there is a clear pattern of uncompromising preference on the part of a handful of countries.

6 The danger of focusing on WHT rates

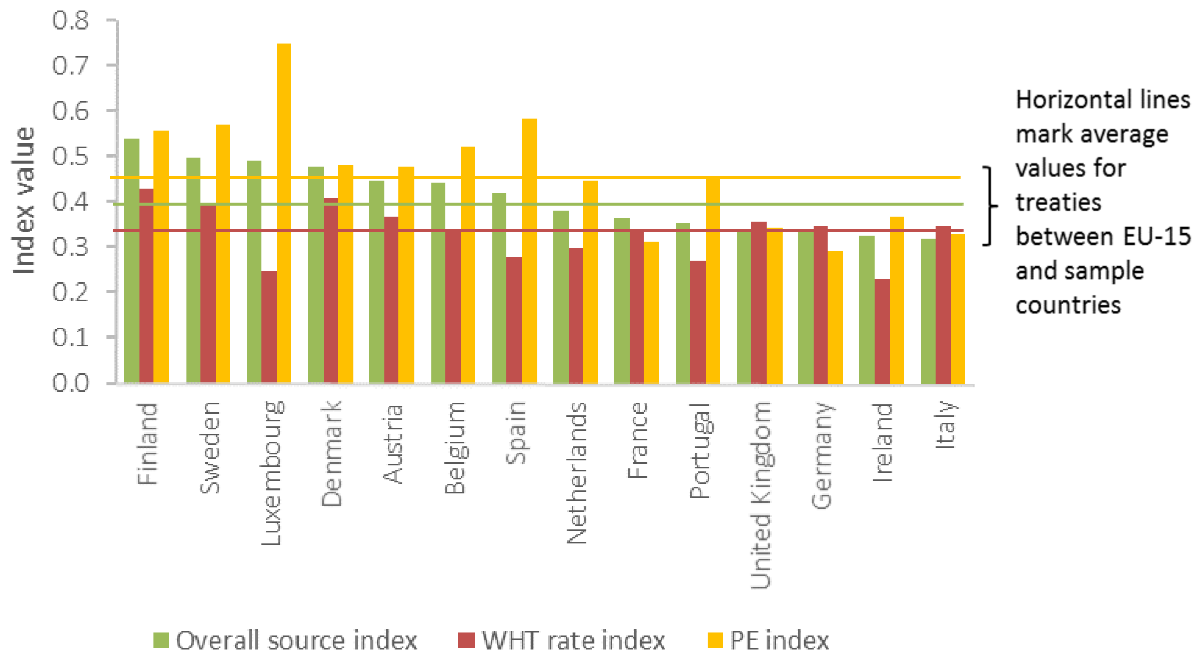
As noted earlier, WHT rates in treaties are the easiest provisions on which to obtain comparable data, and so attention is often focused on these elements. IMF (2014) has noted the trend towards declining WHT rates in treaties over time. Eurodad, a network of European civil society organisations, has analysed the treaty networks of its member countries in this way as part of a recent survey of development policy, concluding that 'Spain remains by far the most aggressive tax treaty negotiator, and has managed to lower developing country tax rates by an average 5.4 percentage points through its tax treaties with developing countries'. (Eurodad 2015: 7).

Figure 14 contextualises methodologies focused on WHT rates by comparing this paper's WHT rate index for the EU-15 countries with the PE index and the overall source index.[13] Some countries do have average values for the WHT and PE indices that correspond to their overall positioning: the Nordic countries' treaties are more source-based than average on all

[13] The EU-15 countries were the members of the European Union before enlargement in 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom. Greece does not have any tax treaties with the sample developing countries in the dataset.

counts; Ireland's are more residence-based than average. This contradicts the IBFD's (2015b: 6) assessment that Ireland's treaties 'contain provisions that are similar to those in tax treaties by other developed countries with the same developing countries'. This may be because the IBFD has examined each provision in turn, in contrast to the aggregate index approach taken here.

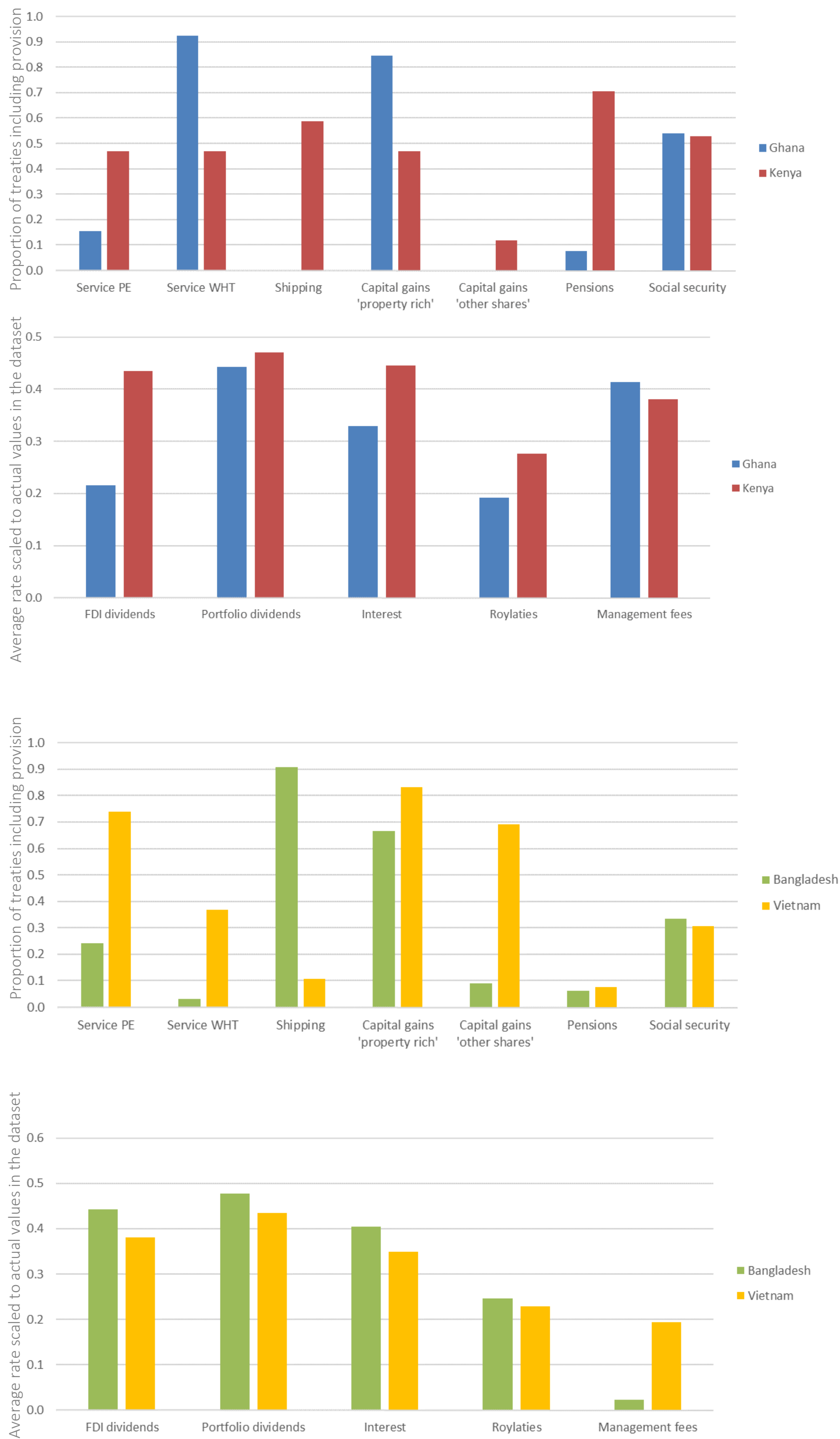
Figure 14 Indices of treaty content averaged for EU-15 countries



Other countries' treaty networks may be misrepresented by focusing on WHT rates alone: Luxembourg, Belgium and Portugal all have lower than average WHT rates, but broader than average PE definitions; France, the UK and Germany all have WHT rates that are about average, but PE definitions that are considerably narrower. In this paper's index approach, Spain, singled out for criticism by Eurodad, does have among the lowest WHT rate values, but these are counterbalanced by broader than average PE definitions. The nature of investment to, from and through each jurisdiction is likely to influence its treaty preferences, and further research could illuminate this by comparing these index values to investment data.

As a further illustration of the difficulties created by a focus on WHT rates in analysing the negotiated content of treaties, Figure 15 highlights the clauses discussed above across four countries' treaty networks, showing marked differences in the revealed preferences of these countries. Ghana and Kenya are compared in the top two rows, and Vietnam and Bangladesh the bottom two.

Figure 15 Comparison of countries' treaty content



The top chart shows that Ghana has prioritised service WHT and capital gains on real property shares, which are present in a large proportion of it treaties, while for Kenya the focus has been on shipping and pensions. In the third chart, Bangladesh's treaty network shows an emphasis on shipping, and Vietnam's a focus on service PE and capital gains. In contrast, the WHT rates in the second and fourth charts show much less variation between countries, and greater consistency, aside perhaps from service fees: Kenya has higher rates for each type of payment than Ghana; Bangladesh has consistently higher rates than Vietnam. Thus, to understand what is important to countries in negotiations, their investment-promoting and revenue-raising strategies, and what constitutes a better or worse outcome, it is necessary to look beyond the easy-to-measure outcomes. This new dataset is designed to facilitate such efforts.

7 Conclusion

This paper has elaborated some basic descriptive results obtained by coding 26 elements of the negotiated content of 519 tax treaties signed by developing countries. Previously, it was thought that tax treaties were becoming more restrictive of developing countries' taxing rights, because WHT rates in the treaties they signed were falling. This study has shown that such a conclusion is not supported once a more comprehensive assessment is made, and once the data is disaggregated by different groups of countries. Broadly speaking, WHT rates are falling, but other parts of treaties, in particular some components of the definition of PE, are becoming more source-oriented. Furthermore, while treaties between developing countries and OECD countries are curbing source taxing rights more than in the past, the trend is reversed for the growing number of treaties signed by developing countries with countries outside the OECD, which are leaving more source taxing rights intact. This points to a growing division between approaches to tax treaty negotiation in the OECD and the rest of the world.

A notable aspect of this changing international tax landscape is that some of the most hawkish negotiators appear to be countries that had no involvement in the original drafting of the OECD model convention that they now seem to emphasise in negotiations. Among OECD countries, it is two newer members, Korea and Turkey, whose treaty networks are the most residence-based, rather than older members such as the US or UK. The BRICS are also divided: on the touchstone issue of withholding taxes on technical services, for example, China and Russia have opposed the inclusion of such clauses in their treaties with developing countries more firmly than most OECD members, while India and South Africa, which are also capital and service exporters to the sample developing countries, have usually included them.

The country-level results show considerable variation in the source/residence balance within the treaty network of both developing and developed countries. Comparative analysis illustrates different priorities in different developing countries, but also variation in the overall balance of negotiated outcomes, as measured by the index created for this paper. Conventional wisdom and some existing studies suggest that this variation is a function of the costs to signatories depending on the investment flows between countries, or of the variation in power balance. In fact, the descriptive analysis provided here suggests that the variation is much less systematic than this. Developing countries that have signed treaties favouring the other country more than average may have considerable scope to improve their negotiating outcomes, since these partner countries have conceded more source-based treaties to countries that are less powerful and will incur lower costs. The new dataset made available with this paper should provide negotiators and commentators with the

information they need to analyse their treaty networks in comparison to their neighbours and competitors.

The analysis in this paper also makes the case for re-estimating existing academic studies of tax treaty negotiations and of their effects on investment by incorporating broader analysis of treaties' content. Withholding taxes, the focus of these existing studies, are easily quantified, but only weakly correlated with other aspects of treaty content. Alone, they do not offer a reliable guide either to the balanced outcome of a treaty negotiation, or to how attractive a given treaty might be to potential investors. The *ActionAid Tax Treaties Dataset* provides an opportunity for researchers to improve on existing studies in this way. As we learn more about the determinants and effects of particular provisions, policymakers in developing countries will obtain better information with which to make decisions about the best approach to tax treaty negotiation.

Annex: Additional regression results

Annex Table 1 Descriptive statistics for the tax treaties dataset

Variable	Observations	Mean	Standard deviation	Min	Max
Year of Signature (1970=1)	537	27	12	1	45
Sample country Africa	537	0.39	0.49	0	1
Sample country LDC	537	0.35	0.48	0	1
Partner country OECD	537	0.45	0.50	0	1
Source index	537	0.45	0.17	0.08	0.84
PE index	537	0.53	0.27	0.03	0.97
WHT index	537	0.45	0.14	0.02	0.86
WHT rates index	537	0.32	0.12	0.00	0.80
UN index	537	0.50	0.18	0.08	0.91
'Other' index	537	0.38	0.23	0.00	1.00

Annex Table 2 Full results for whole dataset

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables	Source index	Source index	PE index	WHT index	WHT rates index	UN index	'Other' index
Sample country Africa	-0.0697***	-0.0101	-0.0103	0.119***	0.0658**	-0.00689	-0.122**
	(-4.768)	(-0.262)	(-0.167)	(3.577)	(2.469)	(-0.166)	(-2.228)
Sample country LDC	-0.0769***	-0.132***	-0.171***	-0.0901***	-0.108***	-0.171***	-0.132**
	(-5.142)	(-3.360)	(-2.692)	(-2.634)	(-3.950)	(-4.004)	(-2.349)
Partner country OECD	-0.0722***	0.0660*	0.133**	0.00881	-0.0132	0.101***	0.0506
	(-5.166)	(1.837)	(2.287)	(0.281)	(-0.530)	(2.599)	(0.983)
Year of Signature (1970=1)	0.00166***	0.00481***	0.0104***	-0.000242	-0.00427***	0.00632***	0.00381***
	(2.726)	(4.709)	(6.294)	(-0.272)	(-6.010)	(5.708)	(2.607)
Sample country Africa		-0.00245*	-0.00393*	-0.00427***	-0.00289***	-0.00227*	0.000538
* Year of Signature		(-1.932)	(-1.917)	(-3.862)	(-3.278)	(-1.653)	(0.296)
Partner country OECD		-0.00511***	-0.00923***	-0.00154	0.000489	-0.00675***	-0.00426**
* Year of Signature		(-4.231)	(-4.733)	(-1.469)	(0.583)	(-5.160)	(-2.466)
Sample country LDC		0.00194	0.00369*	0.00133	0.00269***	0.00262*	0.000774
* Year of Signature		(1.506)	(1.774)	(1.188)	(3.011)	(1.878)	(0.420)
Constant	0.495***	0.402***	0.353***	0.486***	0.456***	0.410***	0.374***
	(23.59)	(12.84)	(6.980)	(17.85)	(21.01)	(12.10)	(8.346)
Observations	537	537	537	537	537	537	537
R-squared	0.196	0.232	0.228	0.117	0.248	0.256	0.181

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Annex Table 3 Full results for African countries

Variables	(1) Source index	(2) Source index	(3) PE index	(4) WHT index	(5) WHT rates index	(6) UN index	(7) 'Other' index
Sample country LDC	-0.0777***	-0.200***	-0.262***	-0.134***	-0.132***	-0.200***	-0.200***
	(-3.962)	(-4.364)	(-3.303)	(-2.806)	(-3.259)	(-4.125)	(-2.938)
Partner country OECD	-0.0572***	0.0801	0.132	0.0813	0.0427	0.127**	0.0292
	(-2.643)	(1.464)	(1.395)	(1.423)	(0.885)	(2.192)	(0.358)
Year of Signature (1970=1)	0.000846	0.000974	0.00387	-0.00429**	-0.00656***	0.00344*	0.00273
	(1.012)	(0.582)	(1.334)	(-2.458)	(-4.448)	(1.941)	(1.095)
Partner country OECD		-0.00476***	-0.0102***	-0.00245	0.000186	-0.00681***	-0.00145
* Year of Signature		(-2.831)	(-3.508)	(-1.397)	(0.125)	(-3.817)	(-0.580)
Sample country LDC		0.00443***	0.00776***	0.00314**	0.00340**	0.00421***	0.00238
* Year of Signature		(2.958)	(2.989)	(2.008)	(2.578)	(2.654)	(1.068)
Constant	0.441***	0.417***	0.410***	0.569***	0.483***	0.398***	0.290***
	(13.34)	(7.401)	(4.198)	(9.661)	(9.722)	(6.669)	(3.459)
Observations	209	209	209	209	209	209	209
R-squared	0.116	0.182	0.232	0.177	0.308	0.237	0.138

Annex Table 4 Full results for Asian countries

Variables	(1) Source index	(2) Source index	(3) PE index	(4) WHT index	(5) WHT rates index	(6) UN index	(7) 'Other' index
Sample country LDC	-0.0767***	-0.00736	-0.0252	0.00210	-0.0514	-0.105	0.00522
	(-3.486)	(-0.111)	(-0.243)	(0.0413)	(-1.345)	(-1.441)	(0.0563)
Partner country OECD	-0.0828***	0.0806*	0.127*	-0.00443	-0.0180	0.105**	0.111*
	(-4.544)	(1.675)	(1.683)	(-0.120)	(-0.647)	(1.988)	(1.654)
Year of Signature (1970=1)	0.00258***	0.00590***	0.0113***	0.000246	-0.00395***	0.00700***	0.00562***
	(2.963)	(4.731)	(5.817)	(0.257)	(-5.488)	(5.094)	(3.228)
Partner country OECD		-0.00626***	-0.00847***	-0.00205	-0.000346	-0.00747***	-0.00798***
* Year of Signature		(-3.659)	(-3.167)	(-1.560)	(-0.350)	(-3.960)	(-3.337)
Sample country LDC		-0.00244	-0.00212	-0.00206	0.000890	-0.000138	-0.00321
* Year of Signature		(-1.120)	(-0.624)	(-1.231)	(0.709)	(-0.0574)	(-1.056)
Constant	0.474***	0.379***	0.327***	0.485***	0.458***	0.400***	0.333***
	(17.00)	(10.03)	(5.551)	(16.74)	(21.01)	(9.627)	(6.310)
Observations	328	328	328	328	328	328	328
R-squared	0.131	0.167	0.171	0.095	0.187	0.197	0.107

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