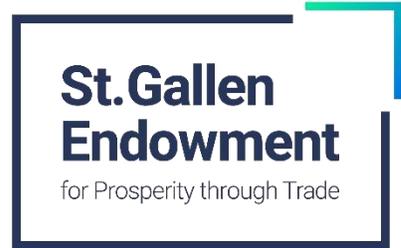


MAPPING POLICIES AFFECTING DIGITAL TRADE



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Abstract

The purpose of this paper is to ask and answer foundational questions concerning the collection of meaningful information about policy stance towards digital trade. Such information can inform deliberation on the design, implementation, and reform of relevant state intervention, on their cross-border effects, and on the potential for international cooperation, including in the form of trade agreements. We summarise and then reflect upon how three other initiatives mapped trade-related aspects of the digital economy. We then depart from these form-based mappings and argue that, for the purposes of policy deliberation about the multi-faceted nature of digital trade policies, an attribute-based approach is preferable, so long as it is sustained over a number of years.

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1 Introduction.

Digital technologies are transforming economies, social discourse, and political dynamics around the world. Commercial activity can be coordinated over much greater distances, allowing for much more fine-grained specialisation of tasks and spurring the development of cross-border supply chains. Opportunities to source from a wider range of suppliers has enhanced choice and created opportunities for entrepreneurs at home and abroad, widening the base of those gaining from international trade.

The social consequences of the spread of digital technologies have been profound too, a fact that has also influenced trade policy deliberation. Individuals and families can maintain ties much more easily than before, but some would argue at the cost of their privacy. New avenues for influencing and disrupting political campaigns have raised hard questions about the robustness of democratic processes. In many respects, these developments have been accelerated by the reactions to the COVID-19 pandemic, where digital technologies have fostered human interaction at a time when physical proximity has been strongly discouraged.

That the success of business models based on digital technologies is so uneven has inevitably linked the governance of digital technologies—at home, regionally, and globally—to national rivalries. Cross-border commerce facilitated by digital technologies has taken off while traditional trade and investment flows remains in the doldrums, further reinforcing the sense that some nations are winners and others losers from the spread of these general-purpose technologies. That a small number of large, high-profile firms are associated with these technologies combined with the perception that they operate in winner-takes-all markets motivates calls for a new round of regulation.

Unsurprisingly, then, these developments have not escaped the notice of policymakers, who seek to shape both the outcomes of such sustained and pervasive technological change as well as the organisations—both private and public sector—that are taking these developments forward (World Trade Organization 2020). With so many areas of law and regulation capable of influencing different aspects of digital technologies, government ministries and national and sub-national regulatory agencies often move at different speeds to enact and implement initiatives. It is far from evident that these initiatives have been coordinated, that much thinking beyond silos has occurred, and that policy is being grounded in the best available information.

A major problem in this respect is the lack of comprehensive accounts of the range of policies that affect the digital economy which can be meaningfully compared across jurisdictions. There are no accepted measures of digital trade policy stance, as there are in monetary policy for instance. Nor are there widely accepted outcome measures upon which to judge policy. It would be incorrect to assert that all policy towards the digital economy is being made on-the-hoof, or that policy deliberation is taking place in an empirical vacuum. However, when compared to the important task of macroeconomic management, policymakers seeking to shape the future course of the digital economy have little by way of qualitative and quantitative evidence to go on.

The past decade has seen industry associations², international organisations³, research institutions and think tanks⁴, analysts⁵, and indeed some governments⁶ assemble pertinent information on policies affecting the digital economy and, in a few cases, analysed their consequences. However, little by way of structured comparison of policy stance can be found to inform policymaking and this largely reflects the large upfront and recurring costs of collecting information on the many different types of what are often referred to collectively as digital trade policies.

Officials often bemoan the lack of empirical evidence to guide and prioritize decision-making but they rarely reflect on why this unsatisfactory situation has come to pass. That digital trade policies implicate many areas of economic law raises the entry barrier to data collection, in particular for individual scholars. In an era when datasets can be readily downloaded, unless there is the prospect of a massive academic breakthrough few, if any, researchers have an incentive to devote the time to collecting large datasets. The opportunity cost is simply too great.

The career incentives of officials at international organizations tend to value quick wins over undertaking multi-year investments in forensic data collection. Many governments also withhold cooperation from the few information collection initiatives that public sector international organizations try to pull off. That many governments fail to back their fine words about the importance of policy transparency with resources to assemble information on digital trade policy choice also contributes to the dearth of reliable data. There are very good reasons for the under-supply of the global public good of transparency in digital trade policy.

The Digital Trade Estimates (DTE) project of the European Centre for International Political Economy (ECIPE) and Digital Services Trade Restrictive Index (D-STRI) of the Organisation for Economic Co-operation and Development (OECD) are notable exceptions although, as we argue later, their focus should be expanded to better meet the needs articulated by policymakers, civil society, and the business community. Indeed, in our view, some existing approaches to evidence collection on digital trade policies may have rushed too quickly to quantification before reflecting sufficiently on the very purpose of such information collection.

As is so often the case, the absence of a weak empirical base has not deterred trade negotiators from including provisions on electronic commerce in regional trading agreements. The

² See, for example, the reports and briefing of the Information Technology & Innovation Foundation available at <https://itif.org/publications/reports-briefings>.

³ The Organisation for Economic Co-operation and Development (OECD) has a work stream on public policies affecting electronic commerce, for example.

⁴ See, for example, the stream of analysis of related technological and innovation matters produced by the McKinsey Global Institute, available at <https://www.mckinsey.com/mgi/our-research/technology-and-innovation>.

⁵ Noteworthy papers on the trade-related aspects of policies affecting the digital economy are Aaronson (2019), Bauer et al. (2020), Chander (2014), Ferracane, Leendert, and van der Marel (2020), Meltzer (2019), and Mitchell and Mishra (2019).

⁶ Based it seems largely on industry inputs, the Office of the United States Trade Representative has expanded its coverage of so-called digital trade policies in their recent annual reports on foreign trade practices (see section 3.2 of this paper).

Comprehensive Economic Partnership Agreement (CEPA) recently negotiated between Japan and the United Kingdom is a case in point.⁷ Moreover, one of the so-called Joint Statement Initiatives being negotiated among a subset of the WTO membership relates to certain aspects of public policy that implicate electronic commerce.⁸ Whether the provisions negotiated address the most important obstacles to digital trade is not a question that appears to faze trade negotiators.

The growing number of inter-governmental disputes over digital taxes and the like do not appear to be grounded in comprehensive assessments of what is at stake. In this respect, digital trade policymaking is probably no worse than other areas of trade policy, admittedly a weak test. Still, it is a far-cry from the gold standard of evidence-based policy making, especially for commercial activities upon which many persons' livelihoods increasingly depend.

The premise of this paper is that policymaking towards the digital economy and towards digital trade in particular would be improved if it were better grounded in evidence. Given many governments around the world are devising and revising policies towards the digital economy, an important part of that evidence base involves structured and meaningful comparisons of relevant public policies across jurisdictions. To that end, a cross-country mapping of pertinent laws, regulations, and their implementation needs to be developed and implemented in a rigorous and sustained manner. The central purpose of this paper is to outline what such a mapping could involve, drawing upon the strengths and weaknesses of three high-profile attempts to track relevant policies that were, by and large, devised for other purposes.

The remainder of this paper is organised as follows. The next section discusses why bother at all mapping policies affecting the digital economy. We argue that there are 10 distinct compelling reasons, each of which can inform different aspects of policymaking. Then in the third section we discuss three high-profile initiatives to assemble information on policies affecting digital trade. We argue in the fourth section that attribute-based mappings will generate more policy-relevant information than the form-based mappings assembled to date. The fifth section of the paper explains how such an attribute-based mapping could be implemented. Concluding remarks are presented in the final section of the paper.

2 Why map?

For the purpose of this paper we define a mapping of policies affecting digital trade as a structured, comprehensive, and meaningfully comparable set of information of the laws, regulation, and associated enforcement of a selected number of customs territories that implicate domestic and cross-border commercial transactions facilitated by digital technologies and other commercial activity that capitalises upon data acquisition, data storage, data processing, data

⁷ For an official summary of the digital provisions of the CEPA, see https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/933990/uk-japan-cepa-digital-and-data-explainer.pdf.

⁸ Information on this initiative can be found at https://www.wto.org/english/news_e/archive_e/jsec_arc_e.htm.

analytics, and data transfer.⁹ In this section we describe the many ways in which a properly executed mapping can contribute to policy formation processes, but first it will be useful to explain in more detail what a mapping is and is not.

Mappings differ from other ways to assemble information about policies affecting digital trade. A mapping goes beyond a listing of pertinent laws and regulations because a mapping includes additional information about relevant aspects (dimensions) of those policy interventions. That additional information should be gathered by consistently applying a pre-specified and coherent methodology. Identification of the relevant aspects (dimensions) typically requires understanding both the broad class of legal regime in question as well as its potential consequences for other actors, in particular private sector actors.

A mapping differs from a case study in that the latter contains more narrative. Moreover, a mapping may provide useful inputs for the construction of a numerical index of policy stances towards digital trade but differs in that the latter involves making assumptions about the relative importance or impact of different policy interventions. However, a mapping can include assessments of the likely consequences of a policy intervention so long as those assessments are the outcome of the consistent application of a pre-specified and coherent methodology.

Proper mapping of policies affecting digital trade contributes to the:

1. Identification of gaps in national policies towards the digital economy.
2. Identification of other jurisdictions with similar, better, or worse policy stances towards the digital economy.
3. Identification of changes in policy towards digital trade by foreign governments.
4. Identification of emergent trends in policy stance of peer or rival jurisdictions.
5. Identification and analysis of the determinants of differential policy choices across jurisdictions (triggers for policy intervention as well as root causes).
6. Identification of better practice laws, regulations, and enforcement which, in addition to informing national policymaking, can be presented to relevant international fora, thereby contributing to a reputation for excellence in digital trade policy matters.
7. Support fact-based engagement with trading partners on policies affecting digital trade, bilaterally, regionally, in specialist fora, and at the WTO.
8. Identification and/or development of provisions for inclusion in regional trade agreements and in plurilateral and multilateral trade accords.
9. Identification of policy intervention taken by trading partners that contravene established international best practice or obligations of trade accords.
10. Structured inputs that can be employed in quantitative assessments of the impact of different types of digital trade policy regimes or in changing policy regimes over time.

Having described what a mapping is and its potential payoffs for the formulation of national policies towards the digital economy and digital trade, we turn to what policy interventions have

⁹ Digital value chains are said to comprise these elements, according to the 2020 edition of the WTO's *World Trade Report* (WTO 2020).

been included to date in three publicly available compilations of information on relevant policy intervention.

3 Information collection initiatives undertaken to date.

We are not the first to advocate compiling information from many jurisdictions on policy changes implicating the digital economy. To identify similarities and our point of departure, in this section we describe the evidence collected in three high-profile monitoring initiatives on digital trade policy. We discuss the initiatives in order of vintage, with the newest approach discussed first.

3.1 OECD's Digital Services Trade Restrictiveness Index.

In his account, Ferencz (2019) motivated the construction of this index as follows "...little is known about the nature and extent of impediments that affect trade conducted through digital means" (page 5). The OECD secretariat's goal was to develop "an indicator that identifies, catalogues and quantifies regulatory barriers that affect trade in digitally enabled services" which could become "an evidence-based tool that helps to identify regulatory bottlenecks, design policies that foster more competitive and diversified markets for digital trade, and analyse the impact of policy reforms" (page 5).

Although much effort was deployed in scoring policy interventions thought to affect digital services and in weighting them according to their likely impact so as, ultimately, to produce index values that are supposedly comparable across nations, when stripped to its core the informational content the D-STRI rests on evidence collected on 37 different types of policy intervention (see the list in Annex A of Ferencz 2019). Ferencz sorted these policy intervention types into the following six groups: "Infrastructure and connectivity," "Electronic transactions," "Payment systems," "Intellectual property rights," and "Other barriers affecting digitally enabled services."

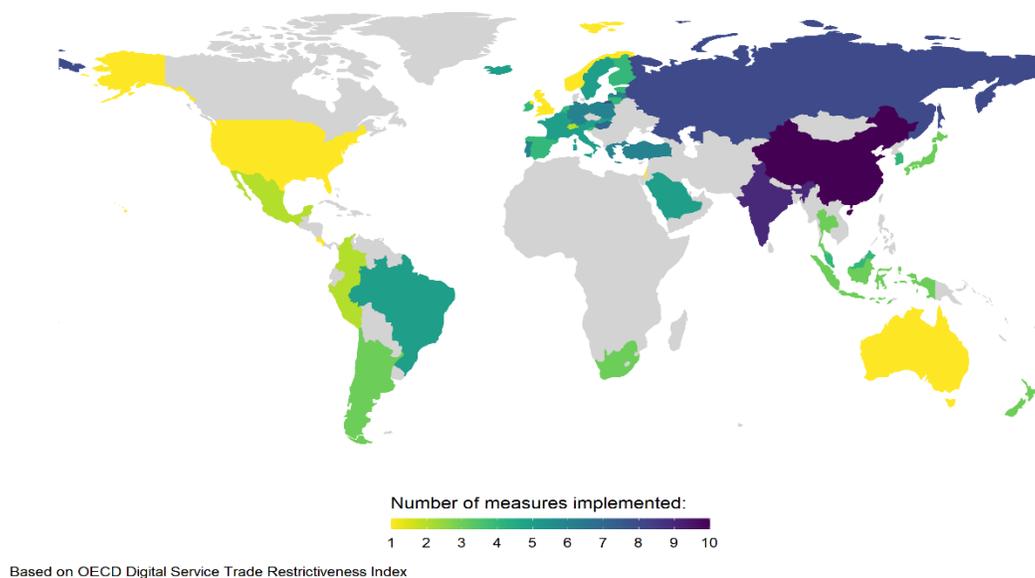
Evidence collection by the OECD Secretariat began in 2014 on policy interventions by authorities in 44 (then 46) jurisdictions. Inevitably, some of policy interventions came into force before 2014. According to the relevant OECD website this database was updated to 2020 and covers digital trade policy measures affecting 10 service sectors.¹⁰ So as to facilitate comparison with the two other digital trade monitoring initiatives discussed in this section, from now on attention focuses on the policy interventions enacted or implemented since 1 January 2010. Information on all such

¹⁰ The 10 service sectors are audiovisual services, computer services, construction services, courier services, distribution services, financial services, and logistics services, professional services (taken to be accounting, architecture, engineering, and legal services), telecommunication services, and transportation services.

policy interventions was extracted from the D-STRI database¹¹ and coded. As will become apparent, unfortunately, some entries in the OECD D-STRI database do not include the year of implementation.¹²

In terms of country coverage of policies enacted since 2010, the largest emerging markets and Western Europe accounted for a large share of the 143 policy interventions found in the D-STRI database (see Figure 1). Fewer policy interventions were enacted in the English-speaking countries, it seems. Of course, counts of policy interventions have their limitations. One omnibus law covering many service sectors may have a more far-reaching effect than a series of sector-specific interventions. Still, China, India, and Russia stand out for the number of policy interventions affecting digital trade imposed during the years 2010-2020.

Figure 1: For digital trade policies implemented from 2010 to 2020, the BRICs and Western Europe are better represented in the OECD D-STRI than the English-speaking members.¹³



¹¹ For further information about that database see <https://qdd.oecd.org/subject.aspx?Subject=063bee63-475f-427c-8b50-c19bffa7392d>.

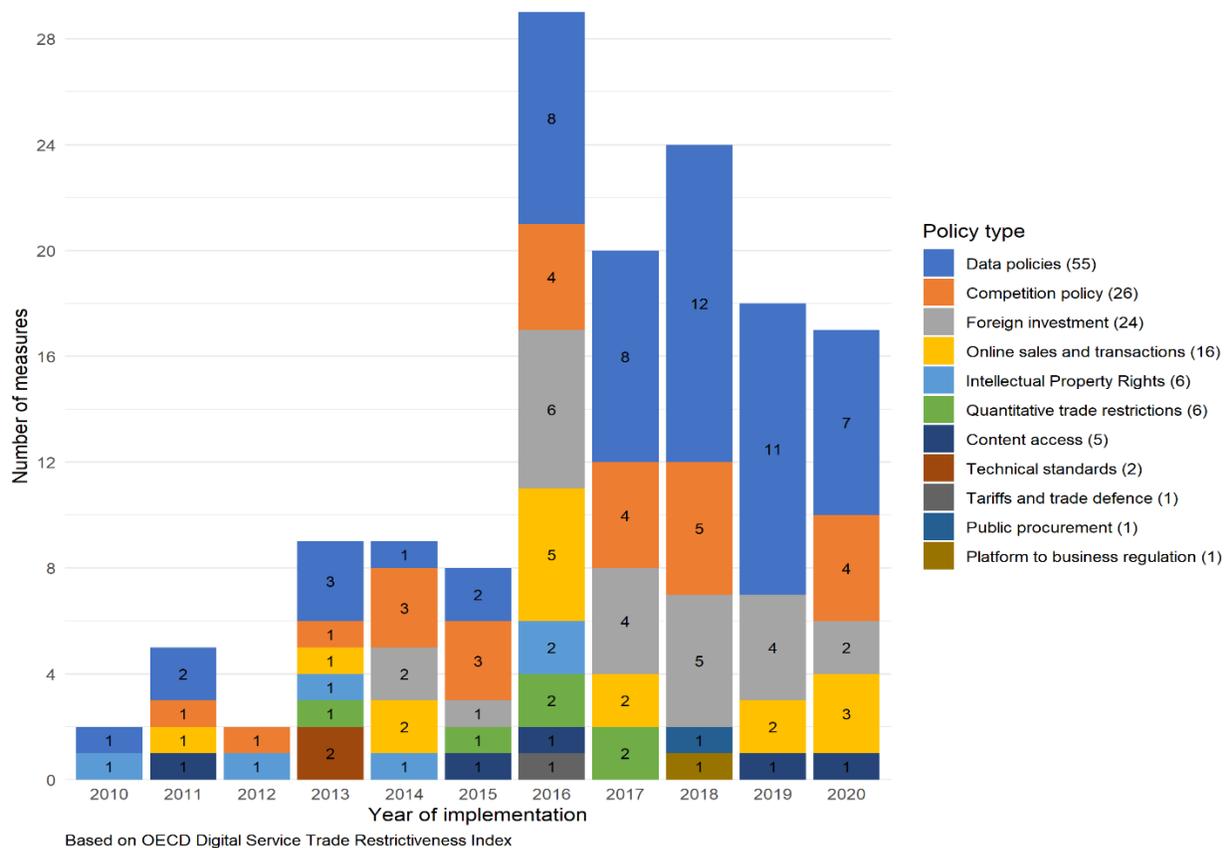
¹² Supplying information on the year in which a policy is implemented ought to be a basic requirement of a comprehensive mapping of digital trade policy.

¹³ It is telling that there is no information on digital trade policy changes for Canada since 1 January 2010. In fact, the D-STRI database does include one entry for Canada, relating to domain name registration. However, this entry does not include a year of implementation for the policy intervention in question. Further research revealed that this policy intervention came into effect on 8 November 2000, see <https://www.cira.ca/policy/rules-and-procedures/canadian-presence-requirements-registrants>.

The 143 entries in the D-STRI that relate to digital trade policies enacted or implemented between 2010 and 2020 were then sorted into 13 types of policy intervention, chosen so as to facilitate comparability with the two other information collection initiatives summarized below.¹⁴ It transpires that five-sixths of the entries in the D-STRI relate to four types of policy intervention: data policies, competition policy, foreign investment policy, and regulations concerning online sales and transactions (see Figure 2).

A total of fifty-five policy interventions relate to policies regulating the use, storage, and transfer of data alone. Resort to such data policies appears to have mushroomed during 2016 to 2020. More generally, resort to policies implicating digitally-delivered services occurred twice to three times as often during the second half of the past decade as compared to the first half. If this picture is accurate, then it goes a long way to account for elevated private sector and government interest in digital trade policies.

Figure 2: Four types of policy implicating digital trade account for 83% of the entries in the OECD D-STRI.



¹⁴ Eleven of the 13 types of policy intervention were found in the D-STRI database. See Table 1 in the next sub-section for a list of the 13 groups of policies implicating digital trade.

3.2 ECIPE's Digital Trade Estimates project.

The European Centre for International Political Economy (ECIPE) began an initiative to track restrictions on digital trade in 2017, naming it the Digital Trade Estimates (DTE) project. In accounts of this project, the emphasis was on digital trade restrictions as the following statement from their April 2018 report makes clear:

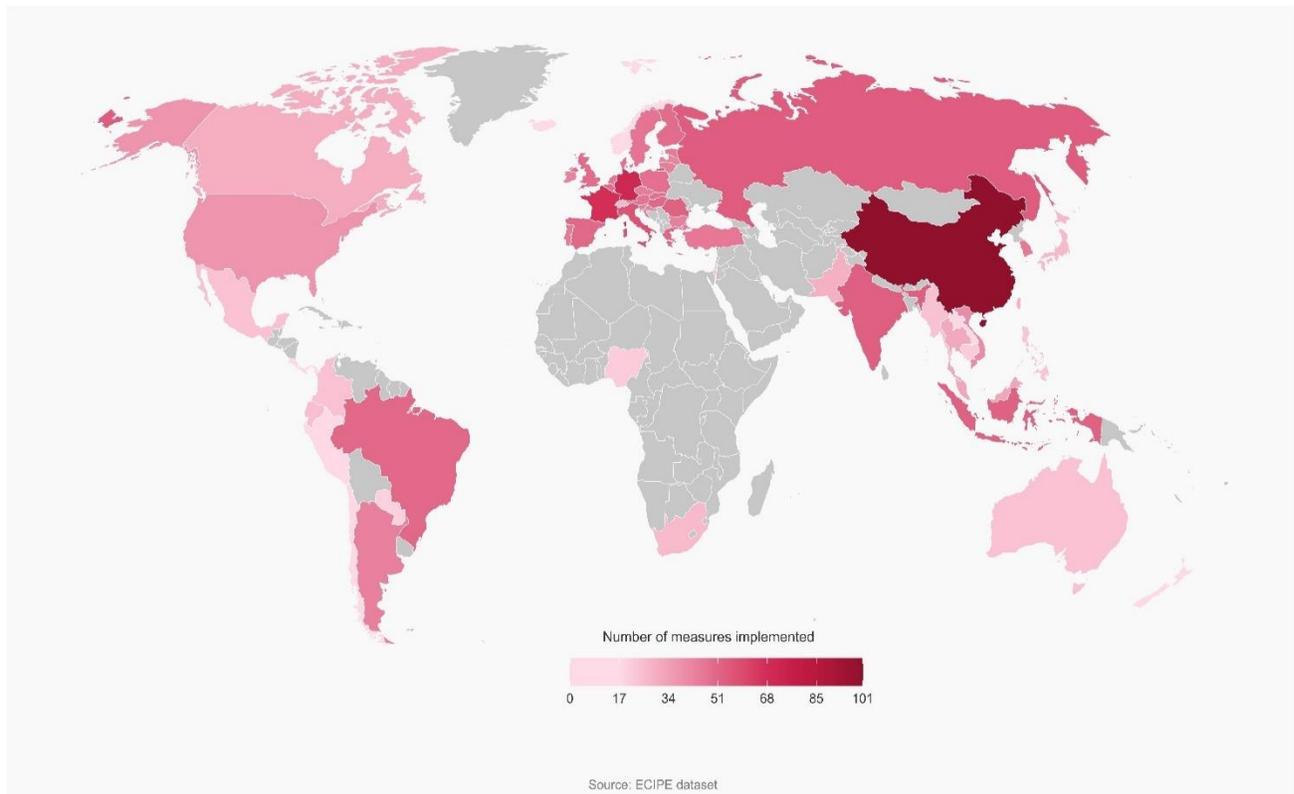
“The Digital Trade Estimates (DTE) project sheds light on policy restrictions in the digital economy. More precisely, it is a source of information for policymakers, analysts and businesses who want a better overview on digital trade restrictions covering all aspects of the trade policy field” (ECIPE 2018, 10).

Information on policy interventions by the governments of 64 jurisdictions (counting the European Union and each of its Member States as separate jurisdictions) was collected going back in time, in some cases decades. This information was coded so as to construct a Digital Trade Restrictiveness Index (DTRI) from which it was possible to rank the 64 jurisdictions. By December 2017, the underlying database contained information on over 1,700 policy interventions (ECIPE 2018, page 130).

A first insight from this ECIPE initiative concerns the geographic distribution of policy intervention affecting the digital economy (see Figure 3 below). By December 2017, policy changes affecting the digital economy were essentially a global phenomenon. A second is that, while all 64 economies tracked implemented some digital trade policies, the G20 economies undertook more policy changes; in particular, Brazil, China, India, Indonesia and the large European economies.

While many of the policy interventions that ECIPE collected information on refer to restrictions on either digital commercial transactions or the cross-border transfer of data that is a key part of many international companies' operating models, information on two other types of policy interventions were collected as well. The first are policies that affect private sector behaviour in the markets associated with the digital economy, an example being policies towards online sales and transactions, intermediate liability, and access to digital content. The second are policies that apply across digital and non-digital sectors of the economy (so called horizontal measures), here information was collected on the enforcement of these laws to firms operating in the digital economy.

Figure 3: Number of named policy interventions in the ECIPE DTE database.



Note: this information reported in this map refers to policy interventions named in the ECIPE DTE database and are not restricted to any range of implementation dates.

Overall, the ECIPE team collected information on 13 different types of policy intervention, organising them into four clusters (see Table 1), the titles of each of which refer to restrictions. Policies relating to the storage, use, and cross-border transfer of data are the most prevalent ones in the ECIPE DTE database where a specific, named policy act was identified.¹⁵ Policies implicating the conduct of online transactions are the second most prevalent group. Policies affecting foreign investments, access to public procurement contracts, and data-related aspects of intellectual property rights are each found between 170 and 190 times in the ECIPE DTE database. The five most prevalent types of policy interventions affecting the digital economy together account for 56% of entries in this database.

¹⁵ The ECIPE database contains many unnamed or untitled policy interventions. The information recorded on the latter was too sparse to make consistent use of.

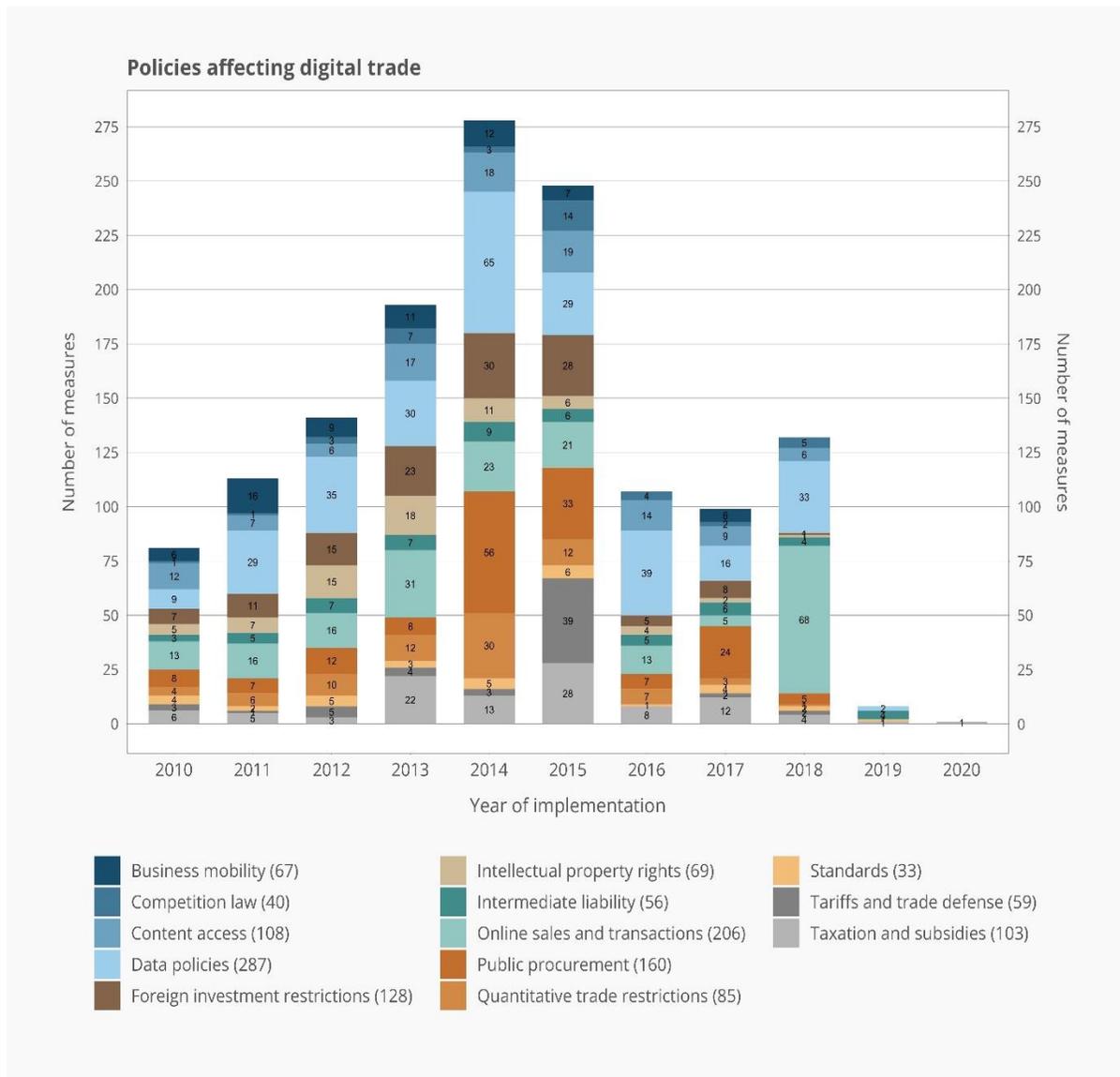
Table 1: ECIPE's form-based mapping of policies affecting digital trade: totals for each class of policy instrument.

<i>Cluster</i>	<i>Class of policy instrument</i>	<i>Number of distinct named dataset entries</i>
Fiscal restrictions	1. Tariffs and trade defence	66
	2. Taxation and subsidies	110
	3. Public procurement	175
Establishment restrictions	4. Foreign investment restrictions	189
	5. Intellectual property rights	171
	6. Competition law	107
	7. Business mobility	133
Restrictions on data	8. Data policies	302
	9. Intermediate liability	91
	10. Content access	117
Trading restrictions	11. Quantitative trade restrictions	91
	12. Standards	75
	13. Online sales and transactions	209

To focus on more recent policy interventions affecting the digital economy, we turn our attention to those state acts where the implementation date lies between 1 January 2010 and 31 December 2020. Figure 4 provides the annual breakdown by type of policy intervention of the state acts that came into force. Recall that this database was constructed in 2017 and 2018 and so the drop off in implemented interventions in 2019 and 2020 is not surprising. To the extent that the ECIPE DTE database is a representative sample, then this suggests that the years 2013 to 2015 were particularly active years, with over 200 new policy interventions implemented in both 2014 and 2015.

During the years 2010 to 2020 a total of 287 new policy interventions relating to the use, transfer, and storage of data were introduced, with 65 such measures coming into force in 2014 alone. A total of 206 new policies implicating online transactions were also implemented since 2010, with 68 entering into force in 2018 alone. Public procurement measures implicating the digital economy were the third most frequently used policy tool, witnessed particularly often in 2014.

Figure 4: Number of distinct, named policy interventions recorded in the ECIPE DTE database with implementation dates from 2010 to 2020, by type of policy intervention.



To the best of our knowledge, ECIPE’s monitoring of policy interventions affecting digital trade has been discontinued. Consequently, two questions arise: had monitoring continued and the database been updated would the variation across time and across policy instruments remained broadly the same? And, second, have other continuing policy monitoring initiatives confirmed the findings of this valuable ECIPE initiative?

3.3 Entries in the *National Trade Estimates*, 2015-2020.

The annual publication by the Office of the United States Trade Representative of its *National Trade Estimates* is another source of information on digital trade policies. According to its latest (the 2020 edition) this report “highlights significant foreign barriers to U.S. exports, U.S. foreign direct investment, and U.S. electronic commerce” (USTR 2020, page 1). This official report classifies foreign trade barriers into 11 categories, one of which is pertinent to this paper:

“Barriers to digital trade and electronic commerce (e.g., barriers to cross-border data flows, including data localization requirements, discriminatory practices affecting trade in digital products, restrictions on the provision of Internet-enabled services, and other restrictive technology requirements);” (USTR 2020, page 2).

As to the sources of information on foreign trade barriers, the following quote reveals much emphasis is placed on information “compiled” by US Federal Departments:

“The NTE Report is based upon information compiled within USTR, the Departments of Commerce and Agriculture, other U.S. Government agencies, and U.S. Embassies, as well as information provided by the public in response to a notice published in the Federal Register” (USTR 2020, page 1)

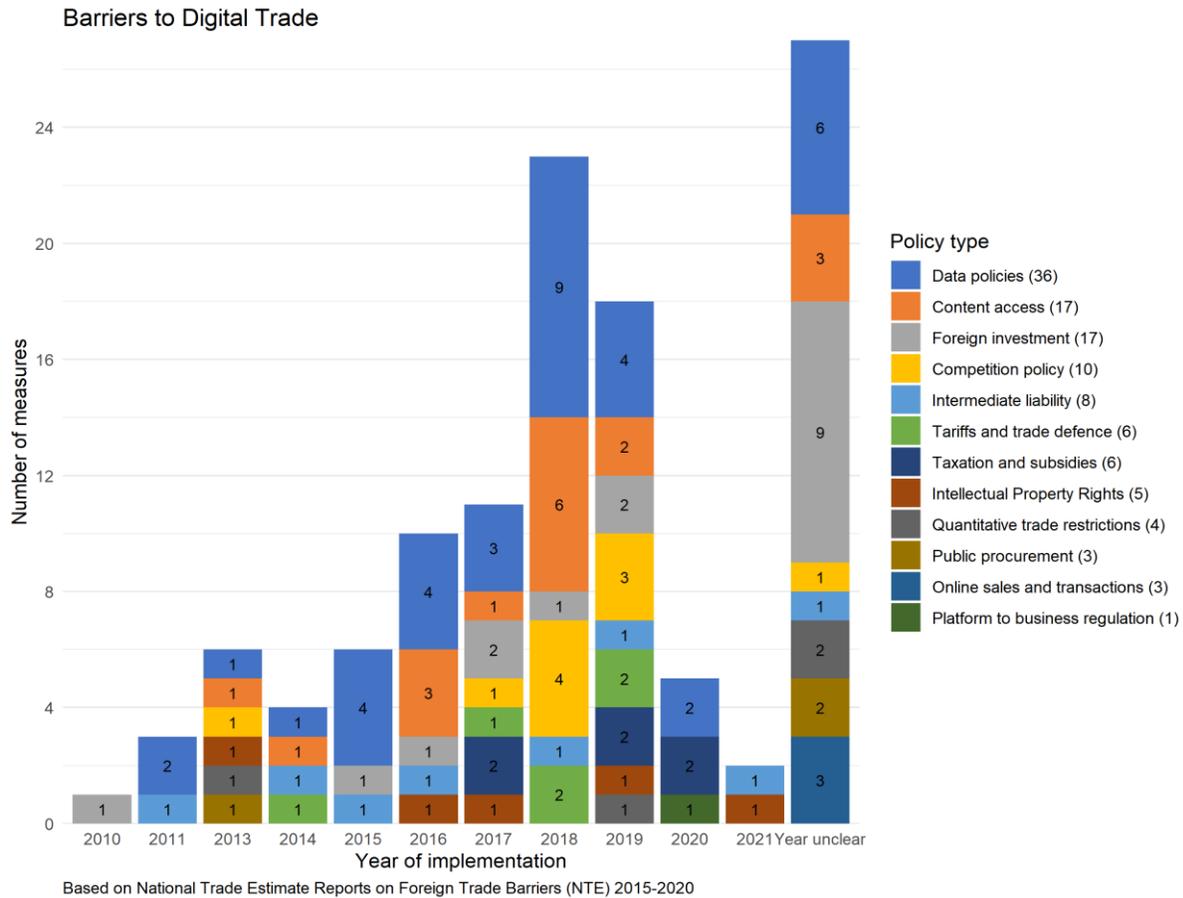
In reality, U.S. companies with international operations and the business associations that represent them are said to bring alleged foreign barriers to the attention of U.S. federal officials. These considerations need to be borne in mind when interpreting the picture of global digital trade policy painted by these U.S. reports: it should be understood that the impression generated is largely one reflecting the concerns of influential U.S. corporate interests.

Entries referring to digital trade or policies affecting the digital economy in the *National Trade Estimates* reports for the years 2015 to 2020 were compiled.¹⁶ A total of 116 distinct entries relating to policy interventions implemented since 2010, or with no clear implementation date, were found and organized to the policy grouping used in the ECIPE DTE initiative. A total of 40 national governments were responsible for these barriers to U.S. firms engaged in digital commerce.

Figure 5 provides the breakdown by year and by class of digital trade policy of the entries in the *National Trade Estimates* reports for 2015 to 2020. Like the OECD D-STRI, a number of entries in the *National Trade Estimates* reports do not mention the year of implementation (represented by the “Year unclear” column reported in Figure 5).

¹⁶ It was difficult to find references to digital trade policies in the *National Trade Estimates* reports published in and before 2014.

Figure 5: Policy impediments to Digital Trade as portrayed in the U.S. *National Trade Estimates* reports.



Three important findings follow from studying Figure 5. First, on this lens, the number of foreign barriers to digital trade has tended to rise over time.¹⁷ This finding must be interpreted with care.¹⁸ It may well be that digital protectionism is on the rise outside of the United States.¹⁹ But it could

¹⁷ Reporting lags plus the fact that the 2020 *National Trade Estimates* report was published in April 2020 probably account for the small number of foreign trade barriers implemented in 2020.

¹⁸ Had widely-accepted estimates of the annual totals of digital trade been available, then it would make sense to normalize the number of complaints to the U.S. government in a given year by the relevant annual total for digital trade. This would reveal whether the total number of complaints (a possible proxy for the total number of actual digital trade impediments) rose at the same rate, faster, or slower than the total value of cross-border digital commerce. We thank one of the co-editors for suggesting this line of reasoning.

¹⁹ As these reports are silent on any barriers to digital trade erected by the United States, it could well be that digital protectionism as it is sometimes referred to is rising in the United States as well as in the rest of the world.

also be that U.S. companies are raising concerns about digital trade barriers more often.²⁰ And, of course, the use of digital technologies has been growing over time.

Second, three types of policy intervention account for 70 of the 116 entries on foreign barriers to digital trade. These are policies regulating the location, transfer, and use of data, policies conditioning user access to digital content, and state measures disadvantaging foreign investors and their operations. Clearly counts of foreign trade barriers need not reveal the quantum of harm to U.S. commercial interests, but it is difficult to accept that the number of instances of such harm reveals nothing about the priorities of U.S. firms that make the effort to raise these concerns with the Federal government.

A third finding is that the number of competition policy-related state acts identified in the *National Trade Estimates* reports rose sharply in 2018 and 2019. If this is a taste of things to come, then a fourth category of foreign commercial policy may become a flashpoint between the United States and its trading partners. Overall, then, while in principle there are a wide range of public policies that could attract the ire of the U.S. government or U.S. companies operating abroad, in fact, at least as far as the *National Trade Estimates* reports are concerned, there are three—possibly four—policies which garner the most attention.

The picture painted in the *National Trade Estimates* reports is not entirely aligned with that found in the ECIPE and OECD information collection initiatives. For sure, policies towards the storage, processing, and transfer of data are the most common trade distortions in all three. However, measures affecting foreign investments by companies engaged in digital commercial activities and policies conditioning access to digital content account for a larger share of the foreign trade barriers found in the U.S reports as compared to the ECIPE dataset. Conversely, the latter contains a larger proportion of policy interventions relating to online sales and to public procurement policies. Competition law measures account for a larger proportion of the entries in the OECD D-STRI database than in the other two initiatives discussed here.

In conclusion, in general, these three high-profile collections of information on digital trade policy do not provide a common set of stylised facts to guide policymaking, analysts, or the private sector. (The exception being the prominence of regulations concerning data storage, use, etc.) This unsatisfactory state of affairs ought to be remedied by sustained independent monitoring of relevant policy developments. However, before that the purpose of such monitoring needs to be revisited, a point developed in the next section.

²⁰ It may be worth reflecting on the factors that determine whether a firm brings to the attention of the U.S. federal government information on a foreign trade barrier. For example, if U.S. firms work on the assumption that their government is more likely to take steps that persuade foreign governments to remove digital trade barriers, then the rising number of reported foreign digital trade barriers need not reflect greater resort to digital protectionism abroad.

4 Map what? An attribute-based approach.

All three approaches to collecting information on digital trade policies discussed in the last section have one feature in common—they are form-based. That is, information was collected on state acts falling within a pre-determined set of policy instruments deemed worthy of monitoring.²¹

One weakness with form-based approaches is that they are unlikely to catch new forms of policy intervention that influence digital trade. Indeed, a foreign government intent on protecting local commercial interests against foreign digital rivals might deliberately choose a form of policy intervention that is not on the list of those being monitored.²² Form-based monitoring initiatives provide another rationale for substitution between trade policy instruments. This logic applies with as much force to digital trade policies as it does to trade policies of greater vintage.

A different approach, which has proved to be both operational and revealing in the Global Trade Alert's decade-long monitoring of commercial policy, is to filter policy intervention based on their *attributes*. For example, if the policymaker's interest is in foreign commercial policy interventions that discriminate in favour of local firms, then monitors can sort through policy interventions according to whether the implementation of a policy improves, worsens, or involves no change in the relative policy treatment of local firms vis-a-vis their direct foreign rivals.²³

Attributes can be revealed in the formal statement of a law, associated implementing regulation, and in the subsequent enforcement of the law. Mappings could then include information on all three. For example, upon enactment a law may be classified as having a certain desirable attribute whereas some subsequent enforcement action under that law may not.

With respect to digital trade policies the case for employing an attribute-based approach is stronger because there are—if the statements of governments, companies, and their business associations are anything to go by—probably even more attributes of interest. That a policy intervention discriminates is just one of the pertinent attributes calls into question the common practice of referring to all objectionable policies affecting digital trade as “digital trade barriers.” A policy may not involve the erection of any specific impediment to digital trade yet the implementation of the policy may still harm a foreign digital service provider, perhaps because the policy's implementation is not transparent and creates uncertainty for foreign market participants.

²¹ The World Trade Organization's monitoring of trade restrictions and trade reforms undertaken by the G20 nations is form-based as well.

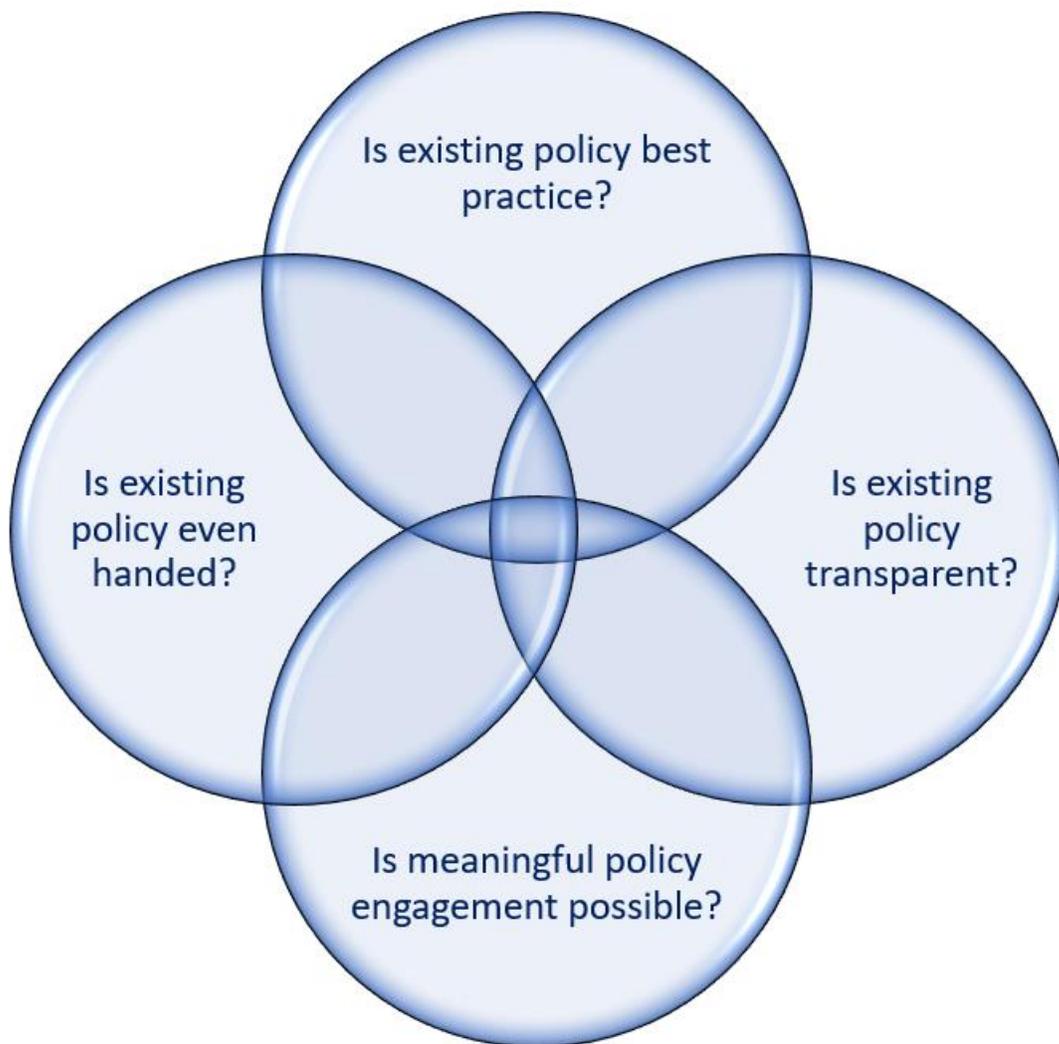
²² In the case of the United States *National Trade Estimates* report this argument only goes so far as nothing prevents U.S. companies from bringing to the attention of the U.S. governments new policies thought to constitute barriers to digital trade.

²³ In the implementation of the Global Trade Alert this is referred to as the Relative Treatment Test and aligns closely with the notion of discrimination developed in international trade law. For an account of the method used to classify policy intervention in the Global Trade Alert see sections three and four of Evenett (2019).

On our reading of the position papers and statements about the policies affecting the digital commerce that seek to influence policymakers, there are at least four relevant attributes that a mapping of such policies ought to take into account (see Figure 6).

Starting from the left-hand side of the Venn Diagram in Figure 6 is the question of whether a policy treats domestic and like foreign commercial interests in an even-handed manner. This is the matter of discrimination mentioned earlier, a classic concern of trade policymakers. On the opposite side of the Venn Diagram is the question whether the implementation of a policy intervention is sufficiently transparent. It has long been understood that the uncertainty engendered by a lack of transparency tends to depress cross-border commerce and the performance of foreign affiliates.

Figure 6: Attribute-based mapping of policies affecting Digital Trade.



At the top of the Venn Diagram is a matter of importance to foreign firms investing in or seeking to operate in a foreign jurisdiction—to what extent, if at all, does the set of policies that regulate the digital economy meet or conform to international best practice, in both design and execution. Taking this attribute seriously involves being open to the possibility that a policy critical for the proper development of the digital economy under-enforced or entirely missing. This is not a particularly new attribute of trade policy: some may recall that one oft-heard American complaint against the Japanese government in the 1980s and early 1990s was that the latter did not properly enforce its competition law. In the context of the digital economy, establishing competitive conditions and enforcing competition law is often said to be important in the telecommunications sector, irrespective of whether the incumbent firm is in the private sector or in the public sector.

The fourth attribute referred to occasionally in (largely) American commentary is whether there are opportunities to engage with foreign governments and regulators as new laws and regulations are being devised or revised. Since both technological developments and business models in the digital economy are evolving quickly, public policy changes may occur frequently.

Therefore, foreign companies and governments may seek to engage with those designing policy initiatives on the same terms as local businesses. They may also want to offer comments and suggestions on draft laws and regulations, much as companies do in the United States. This attribute, then, is about the engagement during the digital policy formation process and not about the state of existing policy and its implementation.

A trade ministry may be interested in one or more of these attributes. Once preferences over these attributes are known, which is tantamount to choosing a position in the Venn Diagram in Figure 6, a mapping initiative should be designed accordingly. Official choice of pertinent attributes could be informed by expert advice as well as the legitimate concerns of the private sector. Those deploying the attributes approach should be open to the possibility that the number of pertinent attributes may change over time and that policymaker interest in certain attributes may wax or wane.

A policy intervention may meet or fall foul of a number of these attributes, allowing for a more nuanced assessment of policy interventions. Put differently, in the area of digital trade policies determining whether a given policy intervention discriminates between domestic and foreign suppliers (the attribute of being even-handed) is one of several characteristics of potential interest to trade policymakers and affected stakeholders. This is not a novel proposition—not least to trade policy analysts, both legal and economic, that have studied traditional behind-the-border regulation.

In practical terms, looking at a policy intervention through the lens of these attributes has implications for the information that an analyst must collect, the questions they must ask, and the manner in which information on a particular policy intervention is enriched.

In classifying a policy intervention according to these attributes, the goal is to *limit* to the greatest degree possible the room for *judgement* calls by the classifier. Rather than judge whether a digital trade policy is a barrier or is protectionist, instead the analyst can judge whether its *de jure* formulation would, if implemented, alter the relative treatment of domestic firms versus direct

foreign rivals. In this manner an explicitly stated standard would be consistently applied to assess whether a policy is even-handed.

Likewise, rather than judge whether a nation's policy is "best practice," it would be preferable to follow the longstanding practice of identifying whether a national law or regulation states that it is aligned with, or takes as a reference, an accepted public global, regional, or sectoral standard.²⁴ Another approach here is to call out those national policy interventions that explicitly depart from an international standard. Moreover, in some cases, the absence of a law may constitute a departure from an international standard. In cases where there are competing international standards, then it will be useful to determine whether a particular national regulation meets the different facets of each standard.

Assessments of transparency can take as their starting point internationally-accepted definitions of the relevant facets of transparency in a particular area of commercial law. Then national administrative practice can be benchmarked against those norms. For example, the International Competition Network, the club of national competition authorities, has guiding principles for procedural fairness in competition law enforcement which identifies several facets of transparent enforcement in the following statement:

"Competition agencies should conduct enforcement matters under transparent rules and practices that provide parties under investigation with timely notice, as appropriate to the type of matter, that an investigation has been opened and its subject matter, agency concerns, allegations, and supporting evidence. Enforcement decisions should be transparent and explain the findings of fact, relevant legal and economic analysis, and any commitments or sanctions."²⁵

The classifier would then check if the administrative practice of competition agency responsible for implementing a particular regulation affecting digital service provider has established procedures that fulfil every condition mentioned above (provision with timely notice; provision of information about allegations made; provision of supporting evidence; explanations of findings of fact etc.) Such approaches are not new—they have been taken to assess many attributes of national merger policies and their implementation.²⁶

When applying the attributes approach to mapping digital trade policy, there are plenty of precedents in areas of commercial law to draw upon. Why? Because complaints about discriminatory, non-transparent practices implemented by regulators that do not follow

²⁴ In the case of voluntary standards adopted by private bodies that have been accepted by government, then the voluntary standard would be benchmarked against whatever international standards are the norm in the sector in question.

²⁵ These Guidelines are available at https://www.internationalcompetitionnetwork.org/wp-content/uploads/2018/09/AEWG_GuidingPrinciples_ProFairness.pdf.

²⁶ See, for example, https://www.internationalcompetitionnetwork.org/wp-content/uploads/2018/05/MWG_ImplementationRPsMergerNotification.pdf.

international best practice and seal themselves off from engagement with foreign peers and the private sector are hardly new.

5 Map what? The details.

What information would need to be collected if policymakers are to effectively track developments in the digital trade policy space? Keeping in mind the four attributes mentioned in the last section, we borrowed from the “Five Ws” approach used in journalism, policing, and other areas of investigative work to formulate the following. To inform future digital trade policy choice, a mapping must include *what* was done *where*, *when*, *why* and by *whom*.

Translated into the policy monitoring domain for *announced unilateral policy changes* in digital trade policy, applying the Five W’s and adding the reliability of the sources as an important sixth dimension leads us to propose collecting information on the following aspects of each policy intervention:

1) What?

- a. the **title** of the announced change including any official branding of it;
- b. the **summary description** of the key elements of the change;
- c. the type of **policy instrument** chosen, including a general nomenclature, where possible, to support connections to other datasets e.g. the UN MAST classification for non-tariff barriers;
- d. where relevant and feasible, the **direction of the change** i.e. whether the commercial interests of the affected trading partners are harmed or benefit;
- e. where relevant and feasible, the **scale of the announced change** in its proper measurement unit e.g. percentage change of a tariff or loan amount;
- f. the **type of economic activity** covered, including a general nomenclature, where possible, to support connections to other datasets
 - i. for physical products e.g. the Harmonised System code;
 - ii. for sectors including services e.g. the United Nations CPC sectoral classification;
- g. the **commercial entities** covered i.e. whether the change is firm-, location-, sector-specific or applies to all entities active therein;
 - i. if firm-specific, the **firm name**, location and other attributes, such as whether the firm or firms in question are state-owned (in whole or in part), state-linked, or otherwise state-controlled.
 - ii. if location-specific, the **location name** and other relevant attributes.

- h. the direction of the **primarily affected commercial flow** (e.g. inflows into an economy being distinguished from outflows).
- 2) Where?
 - a. the **customs territory** where the public body announcing the policy intervention is located;
 - b. the **affected market**, which could include markets outside of the implementing jurisdiction;
 - c. the **trading partners** implicated by the implementation of the policy intervention;
- 3) When?
 - a. the **date** a policy intervention was **announced or updated**;
 - b. the **date** a policy intervention was **implemented or prolonged**;
 - c. the **date** a policy intervention was **removed** (if any);
 - d. the **dates** during which any consultation period with the private sector, other stakeholders, and foreign governments is to be held or will be held.
 - e. the **date** the policy intervention in question was **documented** by the analyst.
- 4) Why?
 - a. the **purpose** of the policy intervention stated by the authority taking the action;
 - b. whether the policy measure is said to be aligned with applicable **international best practices** or other **international standards**, technical and otherwise;
 - c. whether the introduction of the policy measures was **justified at all**. If so:
 - i. whether the policy measure was justified on the grounds of **implementing an international accord** (such as a regional trade agreement) or whether the measure was taken pursuant to the rights a government has in an international accord (such as retaliation permitted following a WTO dispute settlement proceeding);
 - ii. whether the policy measure was justified on and makes specific reference to **scientific knowledge**;
 - d. **related or precedent decisions** including policy intervention that has previously been announced (such as a national development strategy document) or changes made by foreign governments.
- 5) Who?
 - a. the **announcing agency** including whether it is a central government body, sub-national government body, independent state agency, state-owned or state-linked corporation or association, or supranational agency;
 - b. the **implementing agency** and its level/branch of government.

- c. the agency that **reports** on any state action that is the result of the policy announcement, whether its reports are publicly available and the degree to which information is made available, and where those reports can be found.
- 6) Information reliability?
- a. the **reputation and independence** of the data collector or provider;
 - b. the type of **information sources used to spot** the policy intervention;
 - c. the type of **information source used to ascertain** the above attributes of the policy intervention;
 - d. the **official source**, where available, including formal title of any associated law, regulation, etc.

That information on over 30 aspects of any one policy intervention can be collected indicates the considerable scope for enriching the information available to policymakers beyond assembling lists of policy announcements. Doing so requires a specially trained team. The resulting information would complement information on policy developments received from the private sector and from generalists posted to embassies abroad, the sources that many governments ministries tend to rely upon at present. In the highly politicised environment of our age, the reputation of the information assembler as a neutral, independent, and competent chronicler of policy choice cannot be overstated.

Some of the information identified in the “what?” sub-section above would allow for an assessment of whether policy change is even handed, liberalising, or discriminates against foreign commercial interests.²⁷ The information in the “where?” sub-section helps identify the location of the affected commercial activity and the trading partners implicated. The information in the “when?” sub-section is useful in tracking policy stance over time and for assessing prior episodes of policy change. Information on the reporting agency facilitates assessments of the transparency of a particular policy initiative. Much of the other information collected is helpful in facilitating searches of a database for similar policy interventions²⁸ and in assessing the nature and quality of sources of information on policy change.

For *policy changes still being contemplated by a government*, so as to assess whether there is even-handed engagement opportunities for potentially affected commercial parties, information on consultation processes would be collected. This would include information on whether specific proposals are published in official registers or journals, whether there was a consultation process at all, whether comments can be submitted and under what timeframe, and whether there are other opportunities for engagement with decision-makers.

²⁷ Here the Relative Treatment Test mentioned earlier is relevant.

²⁸ It being understood that seamless electronic access to policy intelligence is a desirable outcome. This is in marked contrast to the practice in some multinational corporations and trade ministries whereby mid-level officials hoard and become the guardians of information on policy developments.

In addition to mapping announced policy changes and announcements of policy reviews, which might be referred to as the *flow* of policy change, a full mapping should include information on existing policies that are likely to implicate digital trade as well as the absence of such policies. The latter two refer to, in the language of economics, the *stock* of current policy. This distinction is important for those designing mappings will need to choose whether to monitor the flow of new policy, document the stock of existing policy, or both.²⁹

Implementing such a mapping of digital policy stance, and entering it into a database system that allows in real time for easy information extraction, for filtering according to user-selected criteria, and for intelligent aggregation, would represent a major improvement in the gathering and deployment of trade policy intelligence. For over a decade we have executed and refined such a mapping for traditional commercial policies (see Evenett and Fritz 2020 and Evenett 2019) and see no reason why a comparable mapping could not be created for policies implicating digital trade.

6 Concluding remarks.

In this paper, having reviewed three inventories of policies affecting digital trade during the past decade, and having reflected on the questions of interest to trade policymakers, we have rejected form-based approaches in favour of an attribute-based approach. We went further to flesh out what such an attribute-based approach would involve in practical terms. Here we also reflect on the differences between the implementation of such an attribute-based approach in the digital trade space as compared to more traditional trade policies.

In traditional commercial policy monitoring, in general the absence of a policy choice is unnoteworthy. In the Global Trade Alert database, for example, no entries exist for tariffs that were not applied or subsidies that were not granted. In the digital domain, however, the absence of a policy choice may have a significant impact on market outcomes. For instance, the absence of user data protection regulation, intermediary liability, or copyright legislation are significant omissions in the policy toolkit affecting the digital economy. Comprehensive maps of the digital policy landscape thus must include absence as well as presence of certain policy choices.

Traditional trade policy changes are also less prone to what might be referred to as *directional ambiguity*. It is seldom disputed that changes in import quotas, tariffs, and subsidies to import-competing firms affect the market access conditions of foreign suppliers of the goods in question. In contrast, the cross-border commercial effects of changing data protection legislation or user privacy rights may be harder to discern unambiguously. A comprehensive mapping of policies

²⁹ So as to permit comparisons between the stock of existing policy (and non-policy) and the flow of new policy initiatives, to the extent sensible, the overlap in types of information collected should be maximised. In this respect, the 5Ws and the information reliability criteria listed above should be the starting point for developing a consistent set of characteristics collected on the stock of existing policy.

affecting the digital economy may not be able to draw, in every instance, conclusions about changes in the relative treatment of local firms and foreign rivals.

When it comes to adherence to international best practices and rules, there are closer parallels between more traditional forms of commerce and to digital trade, in so far as the former are covered by unambiguous trade rules or other international norms.³⁰ Policymakers may also be interested in the extent to which a set of policies that regulate the digital economy meet or conform to international best practice, in both design and execution. Taking this attribute seriously also involves being open to the possibility that a policy critical for the proper development of the digital economy is under-enforced.

The approach advocated here should be seen in the context of longstanding arguments about the benefits of transparency in the world trading system. For some, sunlight is the best disinfectant, to quote U.S. Supreme Court Justice Brandeis. For others, transparency serves the important role of putting pertinent facts on the table, thereby diminishing the role that fear and misinformation play in shaping the commercial relations between states. At a time of rising geopolitical rivalry, transparency initiatives that lower the temperature by supporting fact-based deliberation are valuable.

Another important trend to bear in mind is that, while many governments are not very keen on notifying international organisations of their policy changes thereby impairing that source of transparency, many of the same governments have embraced more transparent policymaking practices at home. More and more information is available on government websites and in official journals—and this information can be captured by digital means (“machines”). Even in its current deracinated state, the media still plays a useful role in highlighting when policy changes, when policy might change, and deficiencies in national policy, all of which are grist for the mill for those documenting digital trade policy stance.

These circumstances facilitate bottom-up, machine-driven information collection efforts on policy interventions affecting the digital economy and digital trade. However, for those efforts to be of greatest use to policymakers they must be carefully designed, implemented consistently, and executed for several years. Policymaking should be less informed by human-assembled inventories of policy intervention that are fraught with omissions, classification errors, and other biases. What is needed is the systematic enrichment of such inventories with pertinent characteristics of policy assembled in a meaningful manner that is readily accessible. The combination of trade policy expertise and machines should drag trade policy monitoring and deliberation into the 21st century: nothing less than a digitally-facilitated approach for a digital era.

³⁰ This is not to imply that mappings of traditional commercial policy must take a stance on, for example, WTO consistency of trade policy acts. In fact, at the Global Trade Alert, we took the view that we would not seek to duplicate or second-guess the operation of the WTO’s dispute settlement understanding.

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