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Barriers to trade in digitally enabled services in the G20

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Frédéric Gonzales

OECD TRADE POLICY PAPER

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BARRIERS TO TRADE IN DIGITALLY ENABLED SERVICES IN THE G20

Janos Ferencz and Frédéric Gonzales (OECD)

Digital transformation has enabled easier tradability of traditional services across borders and the emergence of new services that create value from data. But the benefits derived from digitalisation risk being derailed by existing and emerging trade barriers. The OECD Digital Services Trade Restrictiveness Index (Digital STRI) is a new tool that identifies, catalogues, and quantifies cross-cutting barriers between 2014 and 2018 that affect trade in digitally-enabled services across all G20 countries. This index is comprised of a regulatory database of existing trade barriers based on publicly available laws and regulations, as well as composite indices that measure the trade restrictiveness of these policies. The Digital STRI shows that the regulatory environment is complex and diverse across G20 countries, and that there is scope to reduce trade barriers, particularly with respect to communications infrastructure and burdensome measures that affect cross-border data transfers. The Digital STRI can also map regulatory heterogeneity across the G20, and help monitor regulatory convergence, e.g. from regulatory cooperation in trade agreements.

Keywords: Digital trade, digitally enabled services, services trade restrictions, G20, trade policy

JEL Codes: F130, F140, F680

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1. Introduction

Digitalisation itself is not a new phenomenon and has been developing since the 1970s. In recent years, however, this process accelerated rapidly with vastly improving network infrastructure and connectivity, hardware and software that increasingly enable services to become tradable globally.

Moreover, with the growing digitisation of information, increasing computer processing power and broader penetration of high-speed Internet connections, the ability of firms to collect, transfer and process information has increased significantly. The movement of information across borders has become an essential component both as inputs to production of goods and services as well as a key ingredient to new types of data intensive services.

Nonetheless, existing and emerging trade barriers risk reducing the benefits of digitalization, holding back innovation and creating obstacles to the movement of digitally enabled services across borders.

The OECD Digital Services Trade Restrictiveness Index (Digital STRI) provides insights into the nature and extent of regulatory barriers affecting trade in digitally enabled services. The Digital STRI collects regulatory information on the applied policy regimes and quantifies measures into composite indices that show countries' policy environments at a given point in time in a simple and comparable manner. The tool is intended to identify regulatory bottlenecks, benchmark against other countries and international best practices, and devise roadmaps to adopt a more open and more competitive regulatory environment for firms trading in the digital realm.

This paper forms part of the project "Measures Affecting Digital Trade". Its purpose is to tap into this new source of information made available through the Digital STRI to provide insights into the regulatory environment across the G20 countries.

In the next section, the paper presents a brief background discussion on how digitally enabled services are traded before presenting the Digital STRI indices for the G20 countries. The paper also discusses regulatory heterogeneity across the G20 as well as the extent to which Digital STRI measures are reflected in recent international trade instruments.

2. The OECD Digital Services Trade Restrictiveness Index

Digitalisation has had an overarching impact on trade and market openness (Freund and Weinhold, 2002[1]); (López González and Ferencz, 2018[2]). Rapid technological developments have fostered the tradability of services through digital networks, opened new opportunities through greater connectivity, and contributed to more data-driven solutions that enhance both services and manufacturing industries, particularly among the G20 countries (OECD, 2017[3]).

Services are also essential facilitators of digitally enabled trade. Information and communication technology services form the backbone of the digital economy by providing the necessary network infrastructure and underpinning the digitisation of other types of services. Once services activities can be digitised, they can be transferred across electronic networks internationally. Rapidly increasing volumes of data and increasing number of connected devices intensify consumers' demand for faster and more reliable communications networks. Therefore, policies that encourage competition and investment in high-speed networks are essential to unlock the full potential of the digital transformation.

The benefits of digitalisation can be derailed by restrictive policies on digitally enabled services that impose cumbersome and costly trading conditions on firms. Growing services trade barriers can also inhibit innovation, curb knowledge sharing and hamper competitiveness.

However, the availability of reliable, comparable and up to date information on regulatory barriers affecting digitally enabled trade remains scarce. The OECD Digital STRI was developed to narrow that information gap through identifying and cataloguing the most relevant cross-cutting barriers that affect trade in digitally enabled services (Ferencz, 2019[4]).

The Digital STRI comprises of two components: (i) a regulatory database that collects information on regulatory barriers from countries' publicly available laws and regulations; and (ii) composite indices measuring the trade restrictiveness of these policies. The indices take values between zero and one, where zero indicates an open regulatory environment for digitally enabled trade and one indicates a completely closed regime.

The new tool provides a rich source of information on the regulations applicable to digital transactions while the indices provide a snapshot of the level of restrictiveness across countries at a given point in time.

The Digital STRI covers cross-cutting barriers that inhibit or completely prohibit firms' ability to supply services using electronic networks, irrespective of the sector in which they operate. The framework is structured in five policy areas:

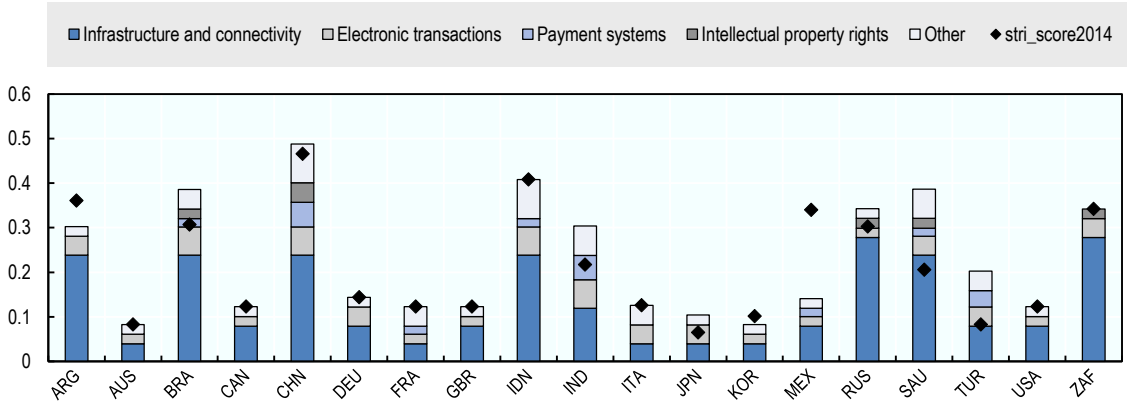
- ***Infrastructure and connectivity***. This area covers measures related to communication infrastructures essential to engaging in digitally enabled trade as well as policies that affect connectivity and cross-border data flows.
- ***Electronic transactions***. This area covers barriers that inhibit electronic transactions through barriers such as discriminatory conditions for issuing licenses for e-commerce activities, deviation from internationally accepted rules on electronic contracts, or inability the use electronic authentication methods (such as electronic signature).
- ***Payment systems***. This area captures measures that affect payments made through electronic means.
- ***Intellectual property rights***. This area covers domestic policies related to the protection and enforcement of trademarks, copyright and related rights, including in respect of national treatment.
- ***Other barriers affecting trade in digitally enabled services***. This area covers other barriers to trade in digitally enabled services that do not fall under the previous policy areas.

3. The regulatory environment for trade in digitally enabled services in the G20

Digital STRIs for G20 countries

The Digital STRIs for G20 countries have been developed for five annual data points (2014-2018). Figure 3.1 presents the Digital STRI outcomes for 2018 as compared to the results for 2014. Annex A lists the index values by policy areas.

Figure 3.1. Digital STRIs for G20 countries (2014 and 2018)



Measures under *Infrastructure and connectivity* are the primary contributors to the indices accounting for more than half of the total index value in eleven countries. This is due to lack of pro-competitive regulations on interconnection measures as well as burdensome conditions on cross-border data flows beyond those imposed to ensure the protection and security of personal data. In eight countries, certain types of data (such as financial or business data) must be stored locally but the transfer of copies abroad is permitted if regulators can have direct access to the data upon request.

Regarding *Electronic transactions*, specific licenses to engage in electronic commerce are seldom required but when they are in place, the conditions to obtain them are less favourable for foreign providers (for instance, by conditioning such licenses to entities having a commercial presence in the host economy). Moreover, online tax registration and declaration is not available to non-resident foreigners in eight countries. International standards for electronic contracts are not applied in most countries, although key electronic authentication measures such as recognition of electronic signatures are generally in place.

Under the measures dealing with *Payment systems*, four countries impose discriminatory conditions on access to certain payment methods, including foreign credit, charge and debit cards, while national payment security standards are different than international standards in five countries. Less frequent restrictions include quantitative limitations on the amount of funds that can be transferred using online payment services and prohibitions on cross-border electronic payment services.

The policy area on *Intellectual Property Rights* makes up a smaller share of the results. Main contributors include regulations that fail to provide treatment to foreigners that is no less favourable than that accorded to nationals with regard to the protection of trademarks, copyright and related rights, as well as on the availability of civil, provisional, and criminal enforcement measures.

Under *Other barriers affecting trade in digitally enabled services*, while only one country requires commercial presence for digital transactions, less cumbersome requirements on local presence are present in a majority of the countries covered. Common requirements include the need to have a local representative in case of cross-border operations.

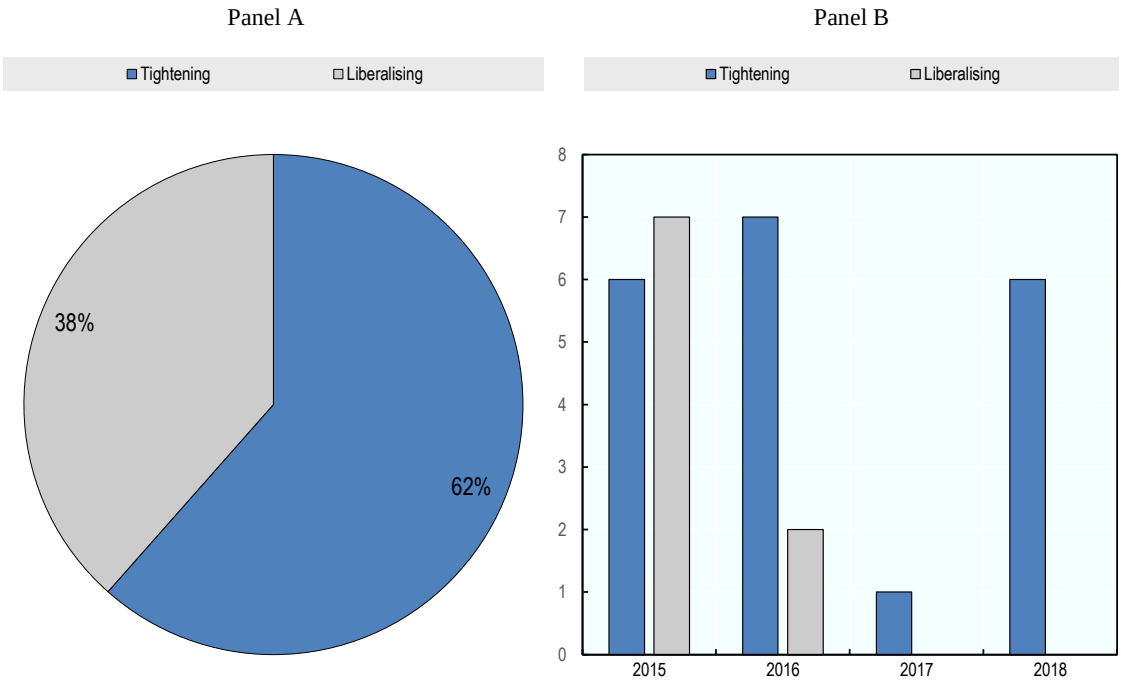
Policy developments over time

The Digital STRI database includes annually updated regulatory information for the period between 2014 and 2018, providing an opportunity to assess policy developments that took place during this period.

Figure 3.1 above depicts the changes in the index value between 2014 and 2018 in each country (indicated by the diamonds). Seven G20 countries have a more restrictive regulatory environment in 2018 than they had in 2014, and only three countries have lowered their index values. In nine countries, the indices remained the same across the years.

On an aggregate level, Figure 3.2 below shows that the regulatory environment across the G20 has become more restrictive in this time period with more than 60% of the observed changes adding further trade restrictive conditions to digitally enabled trade (Panel A). While trade liberalising changes were still adopted in 2015-16, changes after 2017 were only trade restrictive (Panel B). A descriptive list of key policy changes across countries, covering both types of changes, is provided in Annex B.

Figure 3.2. Policy changes affecting trade in digitally enabled services in the G20 (2014-2018)



Source: OECD Digital STRI Database.

4. Regulatory heterogeneity

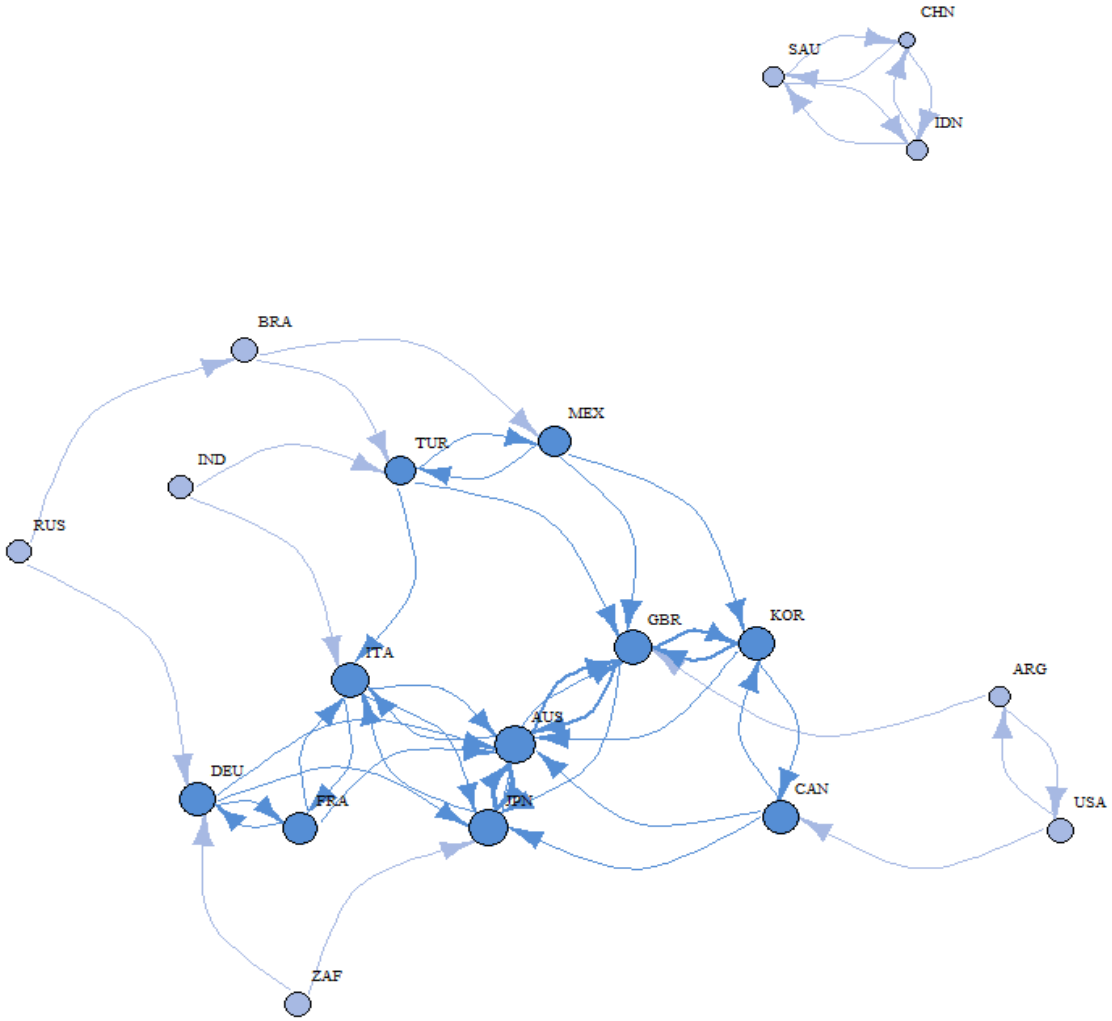
While digitalisation enables easier cross-border trade, rules and regulations remain fragmented by borders. Regulatory divergences can result in additional costs for firms as activities need to be aligned across multiple regulatory frameworks.

The Digital STRI is a rich basis to assess the extent to which regulatory regimes in different countries diverge from one another (Nordås, 2016[5]). Regulatory heterogeneity can be assessed by comparing divergences measure by measure in country pairs. For each measure the country pair has a score of zero if both countries have the same answer (similar regulation) and one if they have different answers (diverging regulation). The scores are then aggregated using the STRI methodology in order to develop regulatory heterogeneity indices for each country pair.

The regulatory heterogeneity indices measure a different source of cost of trading across borders than the Digital STRI, namely the cost of having to comply with different regulatory requirements. Country pairs that have high STRIs but similar regulation as well as country pairs with low STRIs and similar regulation obtain a low score on the heterogeneity index. The regulatory heterogeneity indices are useful for monitoring regulatory convergence, particularly in cases where trade agreements include regulatory cooperation. Network graphs are an intuitive way of visualising the complexity of regulatory heterogeneity across countries.

Figure 4.1 shows the heterogeneity for G20 countries' regulations from a bilateral perspective. Countries represent nodes that connect to each other with arrows. The size of each country node shows its similarity to all other countries (i.e., similarity increases with the size of the node). Colour intensity indicates the centrality of countries (i.e., centrality increases with darker shades). The arrows point towards the most similar countries from the perspective of the country from which the arrow originates. Furthermore, the thickness of the lines indicates the degree of bilateral similarity.

Figure 4.1. Bilateral regulatory heterogeneity



Note: The size and colour of each country node indicate centrality towards other countries, with more central countries in darker shades of blue and less central countries in grey. Connecting arrows indicate bilateral similarity. All countries are assigned at least one arrow to the most similar country.
Source: OECD Digital STRI Database.

Australia and Japan occupy the central part of the network graph with most countries having similar regulations to these two countries. The two countries are further joined by the cluster of four European countries, followed by Korea and Canada. A distinct group is formed by Saudi Arabia, Indonesia and the People's Republic of China (hereafter "China"), which are similar only to each other.

5. The Digital STRI and international trade instruments

Although multilateral rules under the World Trade Organization (WTO) were adopted at a time when no one could have anticipated the far-reaching effects of digital technology on trade, the regulatory framework established under the WTO has full bearing also on digital trade (WTO, 2018[6]); (Wu, 2017[7]); (López González and Ferencz, 2018[2]).

With respect to trade in digitally enabled services, the General Agreement on Trade in Services (GATS) is an important starting point. General principles on most-favoured-nation and transparency apply across the board, while schedules of commitments govern market access and national treatment irrespective of the technological means through which services are delivered.

In addition, specific rules exist within the GATS legal framework for telecommunications services (the Annex on Telecommunications and the Agreement on Basic Telecommunications services) and financial services (the Annex on Financial Services) both of which are essential enablers as digitally enabled trade rests on high quality communications infrastructures as well as efficient payment services that enable commercial transactions online.

The WTO launched a work programme on e-commerce in 1998 (WTO, 1998[8]). At the 11th Ministerial Conference in Buenos Aires in 2017, Members agreed to continue work under the current work programme and "maintain the current practice of not imposing customs duties on electronic transmissions" until the next Ministerial (WTO, 2017[9]). A group of 71 members further agreed to "initiate exploratory work together toward future WTO negotiations on trade-related aspects of electronic commerce" (WTO, 2017[10]).The subject of digitally enabled trade has also been taken up in bilateral and regional trade agreements (RTAs). Currently, 75 RTAs, representing 27% of all RTAs notified to the WTO, include specific provisions on digital trade (WTO, 2017[11]).

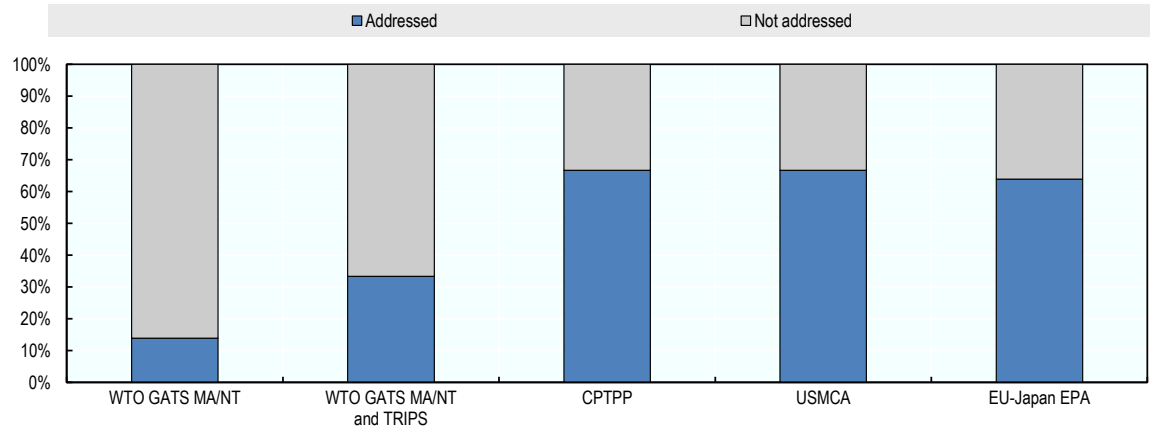
Some of the recent agreements affecting some G20 countries have broad coverage on digital matters such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership Agreement (CPTPP), the United States-Mexico-Canada Agreement (USMCA), or the EU-Japan Economic Partnership Agreement (EU-Japan EPA), among others.

The Digital STRI can be mapped relative to provisions in trade agreements that are relevant to trade in digitally enabled services. Based on the Digital STRI measures, Figure 5.1 below presents the relationship between certain recent international trade agreements and key issues affecting trade in digitally enabled services (Annex C). It illustrates whether provisions in the agreements address these measures - without attempting to assess the nature and extent of obligations foreseen in them (i.e. whether these are addressed fully or not).

While the GATS does not contain specific measures on digitally enabled trade, its provisions are technology neutral, and therefore market access and national treatment commitments made in key services sectors that are cross-cutting enablers of digital transactions are relevant (e.g. telecommunications, computer and related services, or distribution services).

Figure 5.1. The Digital STRI relative to certain trade agreements

Extent to which measures covered in the Digital STRI are addressed in various trade agreements



While the assessment of countries' commitments is beyond the scope of this paper, only a small share of the Digital STRI measures seem to be covered by the sectors where countries would make commitments. This is also due to the fact that many measures in the Digital STRI are part of domestic regulations, and therefore, outside the scope of the GATS provisions on market access and national treatment.

Complementing the GATS with other multilateral instruments relevant for digitally enabled trade, notably the Agreement on Trade-Related Aspects of Intellectual Property Rights, increases the coverage significantly as measures related to the protection and enforcement of trademarks, copyrights and related rights are also relevant.

Certain recent trade agreements also address trade in digitally enabled services. In case of all three regional trade agreements considered, about two-thirds of the Digital STRI measures are addressed. Dedicated chapters on electronic commerce or digital trade cover most of the measures whereas relevant measures are also reflected in other chapters, such as on telecommunications services or intellectual property rights.

Both the CPTPP and the USMCA have a range of measures covered by the Digital STRI, although the requirements of the provisions in the agreements might differ. Moreover, there are various additional measures and disciplines covered in these agreements that are not currently covered in the Digital STRI.

While the coverage of issues is comprehensive, in certain areas, the Digital STRI goes beyond what is addressed in these agreements. Examples of measures that do not appear to be reflected relate to separate licensing or authorisation requirements for digitally enabled trade, or measures that ensure non-discriminatory access for foreign firms to different payment methods and interoperability of security standards for payments, among others.

The EU-Japan EPA is similarly comprehensive, addressing a broad range of measures reflected in the Digital STRI. In terms of measures that do not appear to be reflected, the scope is similar to the other agreements in many areas, for instance on measures on access to different payment methods or interoperability of security standards for payments. In addition, provisions related to the flow of data are not included in the Agreement.[1]

[1] However, the EU and Japan adopted separate Terms of Reciprocal Adequacy for Data Transfers in September 2018.

Overall, key issues affecting trade in digitally enabled services as captured by the Digital STRI are largely addressed in recent trade agreements that include provisions addressing current regulatory challenges affecting digital transactions. On a multilateral level, while existing rules and commitments remain relevant, emerging issues are relatively less addressed.

6. Concluding remarks

As digital transformation continues to have a significant impact on the way services are traded, there is a growing need for an accurate and up to date evidence base to better understand the policy implications of digitalisation.

This paper contributes to narrowing some of the evidence gap by building on the rich regulatory information available in the STRI database to develop an OECD Digital Services Trade Restrictiveness Index (Digital STRI) that maps and measures the regulatory environment governing trade in digitally enabled services.

The paper highlighted that the regulatory environment is complex and diverse across the G20 countries, and significant barriers continue to hamper digitally enabled trade. Key challenges remain on reducing barriers affecting infrastructure and connectivity as well as promoting reforms that enhance the conditions for electronic transactions and payment methods. Strengthening intellectual property protection and effective enforcement measures against online infringements can further improve the regulatory environment in which digitally enabled trade takes place.

Already in the relatively short time period covered by the Digital STRI (2014-2018), the scope of regulatory changes has been significant with more countries adopting comprehensive laws to govern online commerce. However, recent trends show regulatory changes tend to further tighten the conditions affecting digitally enabled trade across the G20.

Moreover, regulatory heterogeneity is widespread among the G20, and regulatory frictions can create additional costs for firms that need to comply with divergent regulations across multiple countries in which they operate.

Lastly, key issues affecting trade in digitally enabled services as captured by the Digital STRI are largely addressed in recent trade agreements. On a multilateral level, while existing rules and commitments remain relevant, coverage of emerging issues remains scant.

References

Ferencz, J. (2019), "The OECD Digital Services Trade Restrictiveness Index", *OECD Trade Policy Papers*, No. 221, OECD Publishing, Paris, https://dx.doi.org/10.1787/16ed2d78-en. [4]

Freund, C. and D. Weinhold (2002), "The Internet and International Trade in Services", *American Economic Review*, Vol. 92/2, pp. 236-240, http://dx.doi.org/10.1257/000282802320189320. [1]

López González, J. and J. Ferencz (2018), "Digital Trade and Market Openness", *OECD Trade Policy Papers*, No. 217, OECD Publishing, Paris, https://dx.doi.org/10.1787/1bd89c9a-en. [2]

Nordås, H. (2016), "Services Trade Restrictiveness Index (STRI): The Trade Effect of Regulatory Differences", *OECD Trade Policy Papers*, No. 189, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jlz9z022plp-en. [5]

OECD (2017), *Key Issues for Digital Transformation in the G20*, https://www.oecd.org/g20/key-issues-for-digital-transformation-in-the-g20.pdf (accessed on 20 September 2019). [3]

WTO (2018), *2018 World Trade Report*, https://www.wto.org/english/res_e/publications_e/world_trade_report18_e.pdf (accessed on 20 September 2019). [6]

WTO (2017), *Joint Statement on electronic commerce*. [10]

WTO (2017), "Provisions on Electronic Commerce in Regional Trade Agreements", *WTO Working Papers*, No. 2017/11, World Trade Organization, Geneva, https://dx.doi.org/10.30875/82592628-en. [11]

WTO (2017), *Work Programme on Electronic Commerce: Draft Ministerial Decision of 13 December 2017*. [9]

WTO (1998), *Work Programme on Electronic Commerce*. [8]

Wu, M. (2017), *Digital Trade-Related Provisions in Regional Trade Agreements: Existing Models and Lessons for the Multilateral Trade System Acknowledgements Acknowledgements*, http://e15initiative.org/wp-content/uploads/2015/09/RTA-Exchange-Digital-Trade-Mark-Wu-Final-2.pdf (accessed on 20 September 2019). [7]

Annex A. Digital STRI values by policy area

Table A.A.1. Digital STRI values by policy area (2018)

Country	Infrastructure and connectivity	Electronic transactions	Payment systems	Intellectual property rights	Other barriers affecting trade in digitally enabled services	Overall index
ARG	0.238196	0.042501	0	0	0.021968	0.302665
AUS	0.039699	0.02125	0	0	0.021968	0.082918
BRA	0.238196	0.063751	0.018415	0.02166	0.043936	0.385958
CAN	0.079399	0.02125	0	0	0.021968	0.122617
CHN	0.238196	0.063751	0.055244	0.043321	0.087257	0.487769
DEU	0.079399	0.042501	0	0	0.021968	0.143867
FRA	0.039699	0.02125	0.018415	0	0.043628	0.122993
GBR	0.079399	0.02125	0	0	0.021968	0.122617
IDN	0.238196	0.063751	0.018415	0	0.087564	0.407926
IND	0.119098	0.063751	0.055244	0	0.065596	0.30369
ITA	0.039699	0.042501	0	0	0.043628	0.125828
JPN	0.039699	0.042501	0	0	0.021968	0.104168
KOR	0.039699	0.02125	0	0	0.021968	0.082918
MEX	0.079399	0.02125	0.018415	0	0.021968	0.141032
RUS	0.277895	0.02125	0	0.02166	0.02166	0.342467
SAU	0.238196	0.042501	0.018415	0.02166	0.065596	0.386368
TUR	0.079399	0.042501	0.03683	0	0.043628	0.202357
USA	0.079399	0.02125	0	0	0.021968	0.122617
ZAF	0.277895	0.042501	0	0.02166	0	0.342057

Source: OECD Digital STRI Database.

Table A.A.2. Digital STRI values by policy area (2014)

Country	Infrastructure and connectivity	Electronic transactions	Payment systems	Intellectual property rights	Other barriers affecting trade in digitally enabled services	Overall index
ARG	0.277895	0.042501	0.018415	0	0.021968	0.360779
AUS	0.039699	0.02125	0	0	0.021968	0.082918
BRA	0.158797	0.063751	0.018415	0.02166	0.043936	0.30656
CAN	0.079399	0.02125	0	0	0.021968	0.122617
CHN	0.238196	0.063751	0.055244	0.043321	0.065289	0.465801
DEU	0.079399	0.042501	0	0	0.021968	0.143867
FRA	0.039699	0.02125	0.018415	0	0.043628	0.122993
GBR	0.079399	0.02125	0	0	0.021968	0.122617
IDN	0.238196	0.063751	0.018415	0	0.087564	0.407926
IND	0.119098	0.042501	0.055244	0	0	0.216843
ITA	0.039699	0.042501	0	0	0.043628	0.125828
JPN	0	0.042501	0	0	0.021968	0.064469
KOR	0.039699	0.02125	0.018415	0	0.021968	0.101332
MEX	0.277895	0.02125	0.018415	0	0.021968	0.339529
RUS	0.238196	0.02125	0	0.02166	0.02166	0.302767
SAU	0.079399	0.042501	0.018415	0.02166	0.043628	0.205603
TUR	0	0.042501	0.018415	0	0.021968	0.082883
USA	0.079399	0.02125	0	0	0.021968	0.122617
ZAF	0.277895	0.042501	0	0.02166	0	0.342057

Source: OECD Digital STRI Database.

Annex B. Key policy changes on digitally enabled trade in the G20

Argentina

On 17 December 2015, the Argentinian Central Bank relaxed foreign exchange controls which limited the operation of international online payment services in the country. The new measures also lifted a 35% tax applicable to the purchase of goods and services from abroad through foreign websites.

As of 2016, new regulations were introduced to allow the possibility to transfer personal data abroad when certain private sector safeguards are in place (e.g. standard model clauses).

Australia

No significant policy changes were identified during the period 2014-2018.

Brazil

In 2016, the Government introduced data localization as a requirement for public procurement contracts involving cloud-computing services. In April 2018, the Brazilian Central Bank implemented Regulation no. 4,658 setting forth requirements for financial institutions in Brazil on hiring data processing, data storage, and cloud computing services. Foreign entities providing such services need an approval from the Brazilian Central Bank and their operation is conditional on the existence of an information exchange agreement between the Brazilian Central Bank and the relevant regulatory authority of the country where they reside.

In August 2018, a new law, Law 13079/2018, was introduced to provide a more comprehensive framework on the protection of personal data. The new law will enter into force after an 18-months transition period.

Canada

No significant policy changes were identified during the period 2014-2018.

China

In 2016, China introduced regulations on the amount of funds that can be transferred using online payments services provided by non-financial institutions. Also in 2016, new regulations were introduced limiting foreign invested companies from engaging in online publishing activities.

The Cybersecurity Law of the People's Republic of China entered into force in June 2017 establishing new rules on privacy and security regulation for cyberspace, including setting conditions on data processing and localisation.

In March 2018, the Ministry of Industry and Information Technology issued a noticed on the rules applicable to Internet access services which affects communications services such as virtual private network services.

A new E-Commerce Law was passed on 31 August 2018 by the Standing Committee of the National People's Congress, and will enter into force on 1 January 2019.

France

The new General Data Protection Regulation (Regulation 2016/679) entered into force on 25 May 2018 providing a comprehensive update on the EU data protection regime.

Germany

The new General Data Protection Regulation (Regulation 2016/679) entered into force on 25 May 2018 providing a comprehensive update on the EU data protection regime.

Italy

The new General Data Protection Regulation (Regulation 2016/679) entered into force on 25 May 2018 providing a comprehensive update on the EU data protection regime.

India

Since 2016, the Government relaxed the conditions on foreign investment in e-commerce entities. However, this applies only to business-to-business e-commerce activities. Also, foreigners are not permitted to undertake e-commerce activities where inventory of goods and services is owned by them and is sold to the consumers directly. In 2017, India introduced a levy of 6% on purchases of advertising services from non-resident companies.

Indonesia

Indonesia has opened several services sectors to foreign investment under the new 2016 Negative Investment List, including sectors relevant for digitally enabled trade, such as telecommunications and audio-visual services. The measures covered in the Digital STRI were not directly affected by these reforms.

Japan

Japan introduced amendments to the Act on the Protection of Personal Information which entered into force on the 30 May 2017.

Korea

The conditions on Internet banking were relaxed at the end of 2015 permitting the operation of Internet-only virtual banks.

Mexico

Mexico has undertaken a comprehensive reforms on telecommunications and broadcasting services, introducing various measures such as pro-competitive measures to facilitate interconnection to the dominant providers' networks.

Russian Federation

In 2015, a new legal requirement came into force requiring that certain personal data collected in the Russian Federation be stored on local servers.

Saudi Arabia

Saudi Arabia introduced a new Cloud Computing Regulatory Framework in 2018 establishing a comprehensive regulatory framework for cloud computing services and obligations for providers of such services. The Ministry of Commerce and Investment has recently prepared draft regulations on electronic commerce, however, these are yet to be in force.

South Africa

No significant policy changes were identified during the period 2014-2018.

Turkey

In June 2015, new regulations were introduced for providers of electronic payment and electronic money services. In April 2016, a new Act on Personal Data Protection came into force that established a comprehensive framework on privacy and data protection.

United Kingdom

The new General Data Protection Regulation (Regulation 2016/679) entered into force on 25 May 2018 providing a comprehensive update on the EU data protection regime.

United States

No significant policy changes were identified during the period 2014-2018.

Annex C. Coverage of the Digital STRI measures in trade agreements

Table A.C.1. Coverage of the Digital STRI measures in trade agreements

Measure	WTO GATS MA/NT	WTO GATS and TRIPS	CPTPP	USMCA	EU-Japan EPA
Infrastructure and connectivity					
Interconnection is mandated	*	*	X	X	X
Interconnection prices and conditions are regulated	*	*	X	X	X
Interconnection reference offers are made public	*	*	X	X	X
Vertical separation is required	*	*	X	X	X
Memo: Non-discriminatory Internet traffic management is mandated					
Memo: There is at least one dominant firm in the market segment considered	*	*	X	X	X
Restrictions on the use of communication services	X	X	X	X	X
Memo: Free cross-border transfer of personal data or application of the accountability principle			X	X	
Cross-border transfer of personal data is possible when certain private sector safeguards are in place					
Cross-border data flows: cross-border transfer of personal data is possible to countries with substantially similar privacy protection laws					
Cross-border data flows: cross-border transfer is subject to approval on a case-by-case basis					
Cross-border data flows: certain data must be stored locally			X	X	
Cross-border data flows: transfer of data is prohibited			X	X	
Electronic transactions					
Discriminatory conditions for licenses to engage in e-commerce					X
Memo: License or authorisation is required to engage in e-commerce					X
Online tax registration and declaration is available to non-resident foreign providers					
National contract rule for cross-border transaction deviate from internationally standardised rules			X	X	X
Laws or regulations explicitly protect confidential information		X	X	X	X
Laws or regulations provide electronic signature with the equivalent legal validity with hand-written signature			X	X	X
Dispute settlement mechanism exists to resolve disputes arising from cross-border digital trade					
Payment systems					
Discriminatory access to payment settlement methods					
National payment security standards deviate from international standards					
Restrictions on internet banking or insurance	X	X	X	X	X
Intellectual property rights					
Foreign firms are discriminated against on trademark protection		X	X	X	X
Discriminatory treatment of foreigners for the protection of copyrights and related rights		X	X	X	X
Memo: Exceptions to copyright protection are limited in accord with international rules		X	X	X	X
Enforcement of intellectual property rights: Judicial or administrative enforcement measures and remedies are available		X	X	X	X
Enforcement of intellectual property rights: Provisional measures are available		X	X	X	X
Enforcement of intellectual property rights: Criminal enforcement proceedings and penalties are available		X	X	X	X
Other barriers affecting trade in digitally enabled services					
Performance requirements affecting cross-border digital trade	X	X	X	X	X
Limitations on downloading and streaming affecting cross-border digital trade					
Restrictions on online advertising			X	X	X
Commercial presence is required in order to provide cross-border services	X	X	X	X	X
Local presence is required in order to provide cross-border services	X	X	X	X	X
Firms have redress when business practices restrict competition in a given market			X	X	X
Other restrictions on digitally enabled services					

* Principles related to these measures are included in the WTO Telecommunications Services Reference Paper.