

THOLOS
FOUNDATION

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INNOVATION ▼▲

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International Trade Barrier Index 2021

Full Report

COVERING 94% OF THE WORLD GDP AND 83% OF THE WORLD POPULATION



I. Introduction

The 2021 International Trade Barrier Index identifies the most direct and indirect trade barriers imposed by 90 countries affecting 84% of the world's people and 95% of world GDP. The first edition, launched in 2019, was warmly received in major markets such as Brazil, India, the U.S., and the UK, where trade negotiations remained topline news throughout 2020. In this way, it achieved its intended goal, as it was referenced by think tanks and trade experts to draw attention to the wide variety of trade barriers deployed by different capitals and the harm they cause to the economy and society.

The TBI assesses countries on their use of all direct types of trade barriers and the behind the border facilitation environment necessary to allow trade to occur (figure 1). The average TBI score in 2021 is 4.01 on a 10 point scale, with 10 indicating the highest use of trade barriers. It represents a .5% increase from the 2019 edition indicating a general uptick in the use of trade barriers. Though the median score remains low, it highlights the fact that heavy use of trade barriers are generally an exception rather than a norm to be tolerated. The median score for tariffs is 5.12, Non-Tariff Measures 1.65, Services Restrictions 4.28, and Facilitation is 5.00 (figure 2). Most of the movement between editions occurred in the NTM component and the Facilitation component (figure 4). The digital trade barrier indicator, which is a quarter of the Facilitation score, was the only section where the methodology was updated.

During the one year between editions the world experienced significant events in trade policy history. To name a few: Brexit, the U.S.-China trade war, U.S. tariffs and retaliation over steel and aluminum, a stall of the WTO appellate board, and the trade policy response to COVID-19. These have all contributed to changes in the TBI. (Figure 3).

The new edition adds Botswana, Egypt, Kenya, Mauritius, Ukraine, the United Arab Emirates, and Zimbabwe. While Brunei Darussalam, Israel, and Venezuela were unable to be included due to insufficient data. Trade Barriers by Income and Regional Groups.

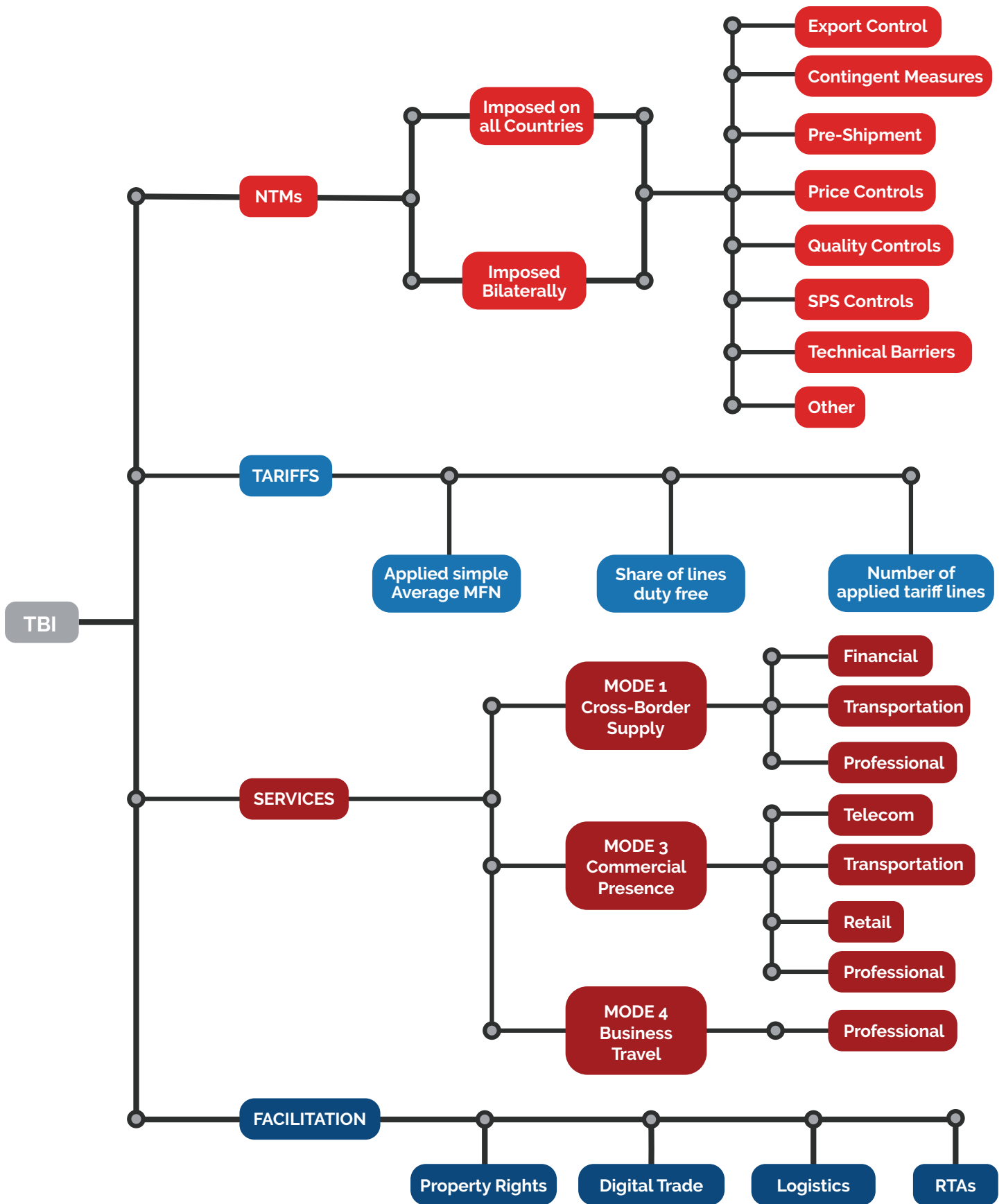


Figure 1

TBI 2021

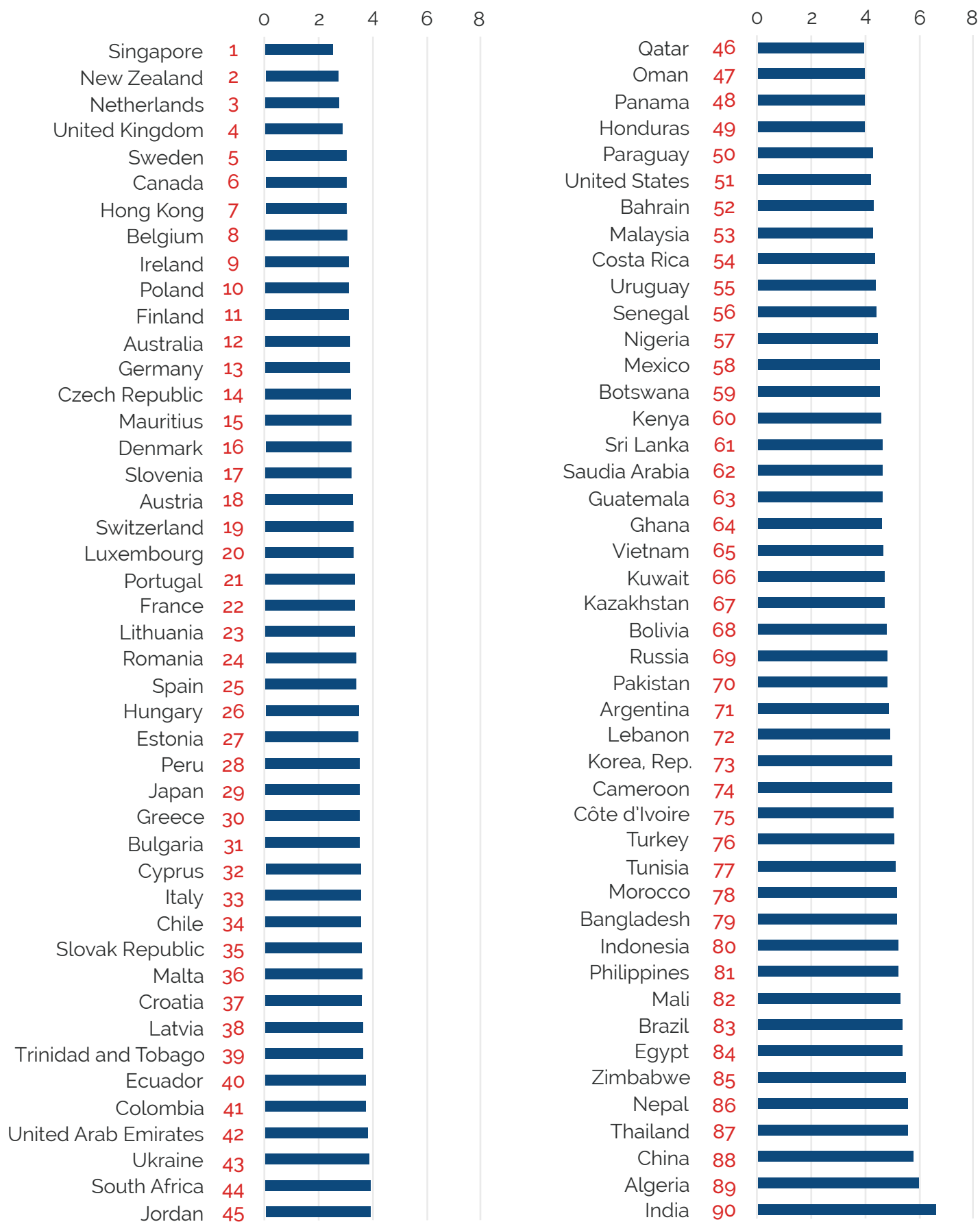


Figure 2

Changes in the Top 15 from 2019 to 2021

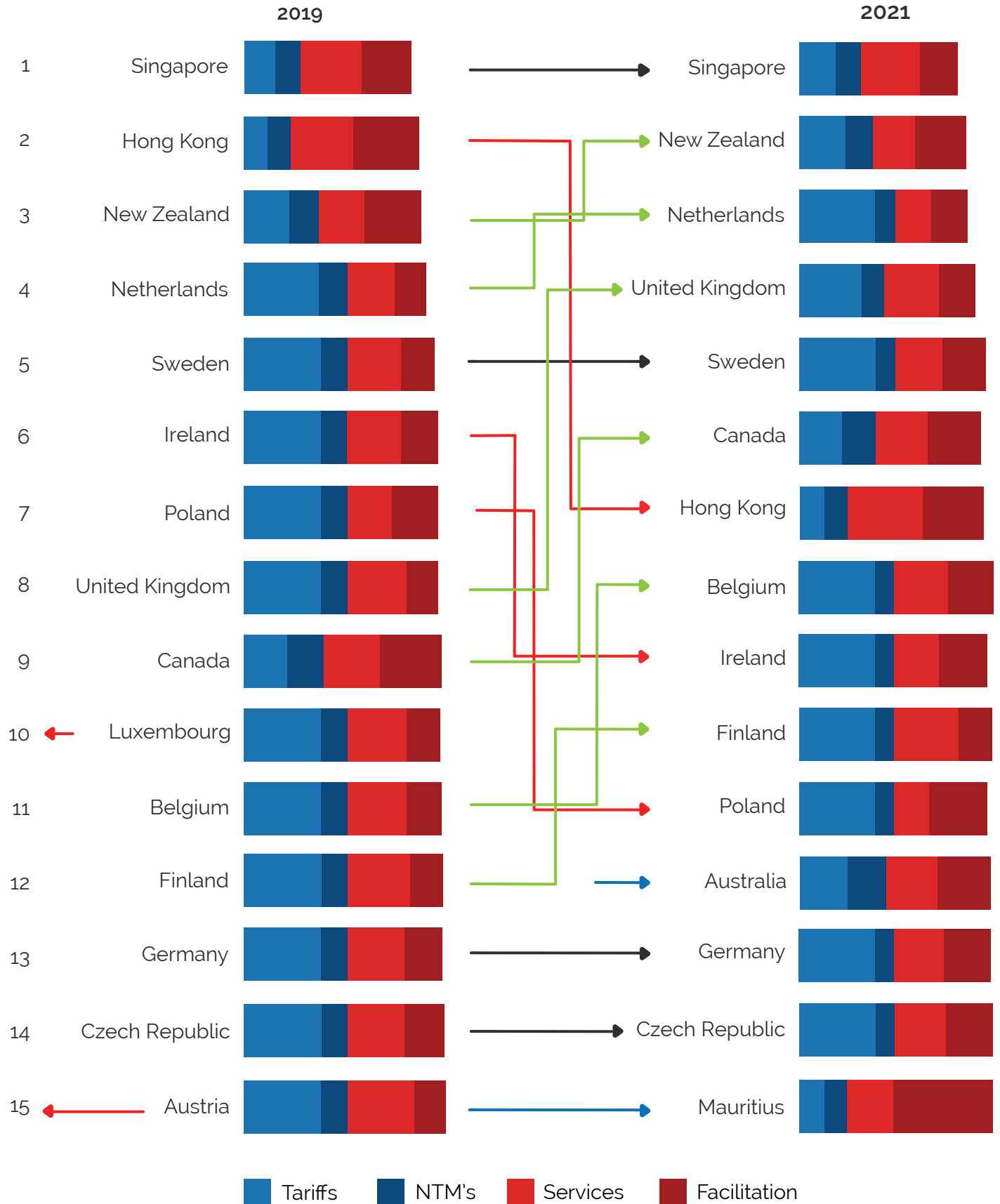


Figure 3

Percent Change TBI

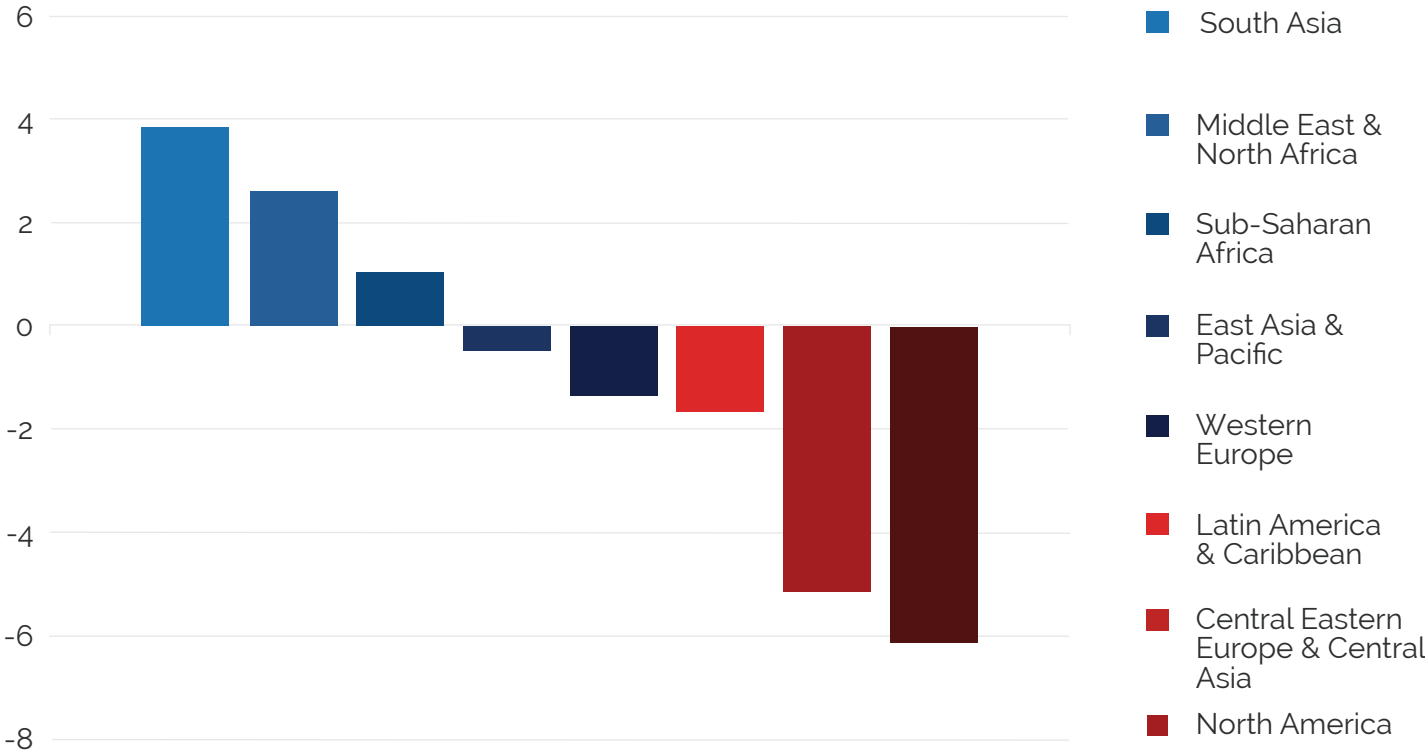


Figure 4. Regional Percent change in TBI between 2019 and 2021

II. Trade Barriers by Income and Regional Groups

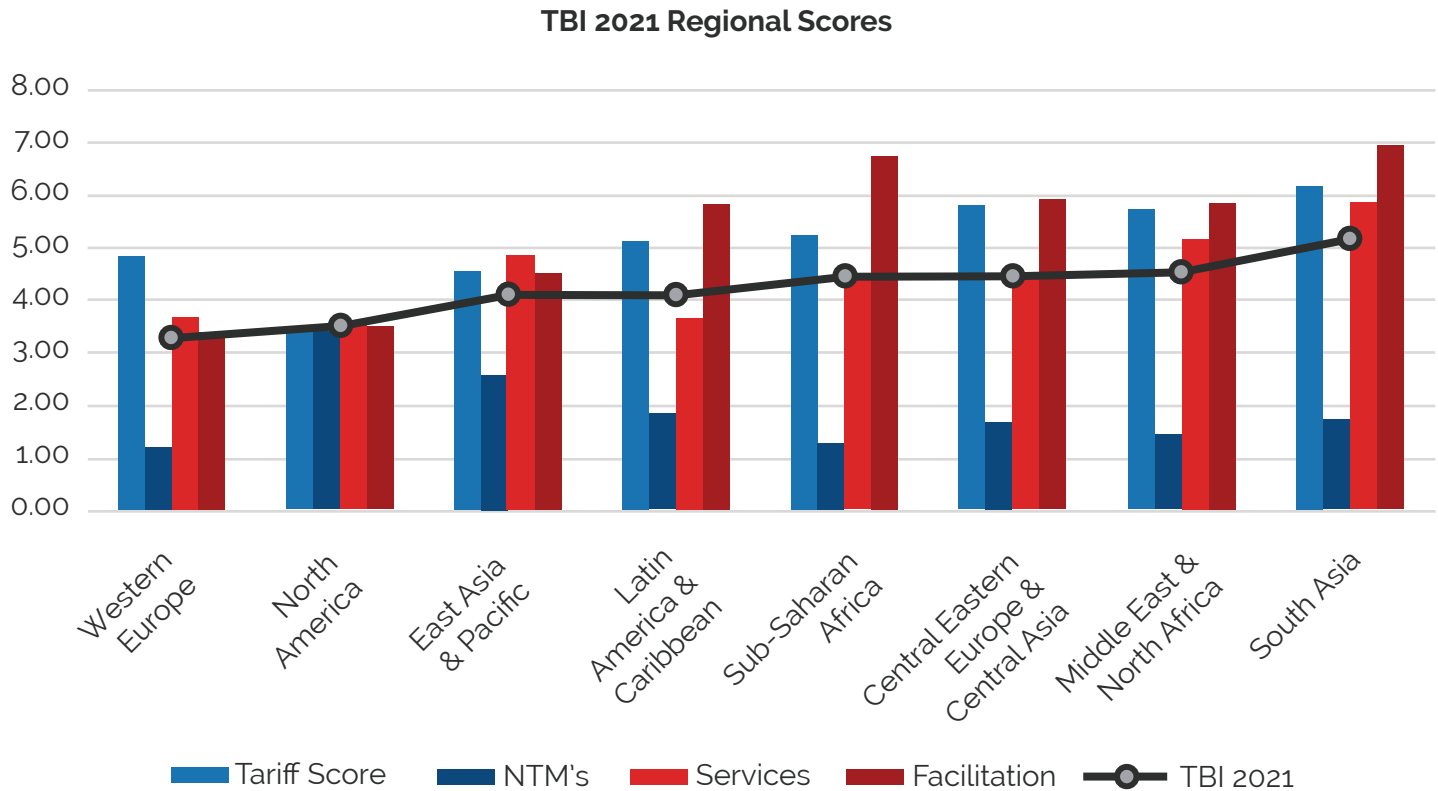


Figure 5

As a region, Western Europe, which includes the European Union (EU), the United Kingdom (UK), and Switzerland, lead the world in laissez-faire trade, as recorded by the TBI (Figure 5). Unfortunately, the EU's restrictive duty-free and Most Favored Nation (MFN) rates force the group's Tariff score to be much higher than the high-income group average. East Asia, which includes some of the world's freest economies such as Singapore, Hong Kong, Australia, Japan, and South Korea also includes some of the most protectionist countries practicing import substitution industrialization such as China and Indonesia, allowing the region to rank just after North America. The region with the most trade barriers, and little variation, is South Asia which includes: Sri Lanka, Pakistan, Bangladesh, Nepal, and India. In 2020, India demonstrated how protectionist its trade policy really is when it declined to sign the Regional Comprehensive Economic Partnership (RCEP) trade agreement with 15 other regional neighbors accounting for 30% of global GDP after six years of participating in negotiations. Then, in 2021, India was late to remove barriers to the importation of vaccine and medical equipment despite its incapacity to produce sufficient quantities for the domestic market. In the 2021 TBI, India is once again last on the Index indicating it imposes the most trade barriers.

TBI 2021 Income Group Scores

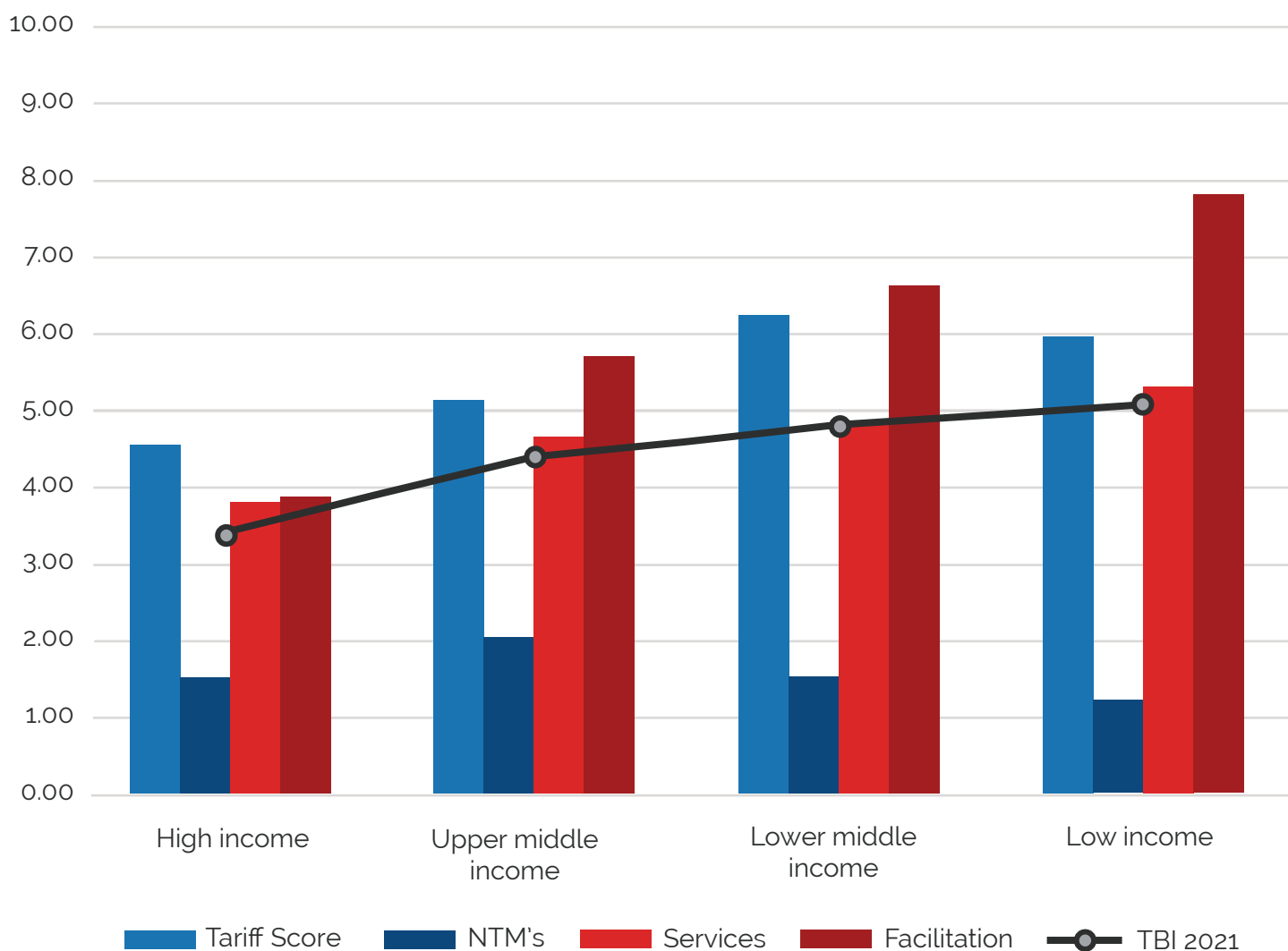


Figure 6

From the income perspective (Figure 6) the average TBI score paints a clear relationship between income and trade barriers, the fewer trade barrier that exist the more income a country experiences. In good news, Nepal and Senegal moved from the Low-Income group to the Lower-Middle Income group leaving only Mali in the Low Income group. There are 22 countries in both the Upper-Middle and Lower-Middle Income groups. Only one country from Western Europe is in this middle section: Bulgaria. Generally Latin America and Caribbean countries have better scores in the Upper Middle-Income group, led by Peru. High Income and Upper Middle-Income countries generally apply fewer Tariff, Services, and Facilitation barriers, but more Non-Tariff Measures. While Lower-Middle Income countries are set back by applying many more Tariff barriers and by property rights, logistics, and membership in Regional Trade Agreements, which are indicators in the Facilitation component.

III. Tariffs

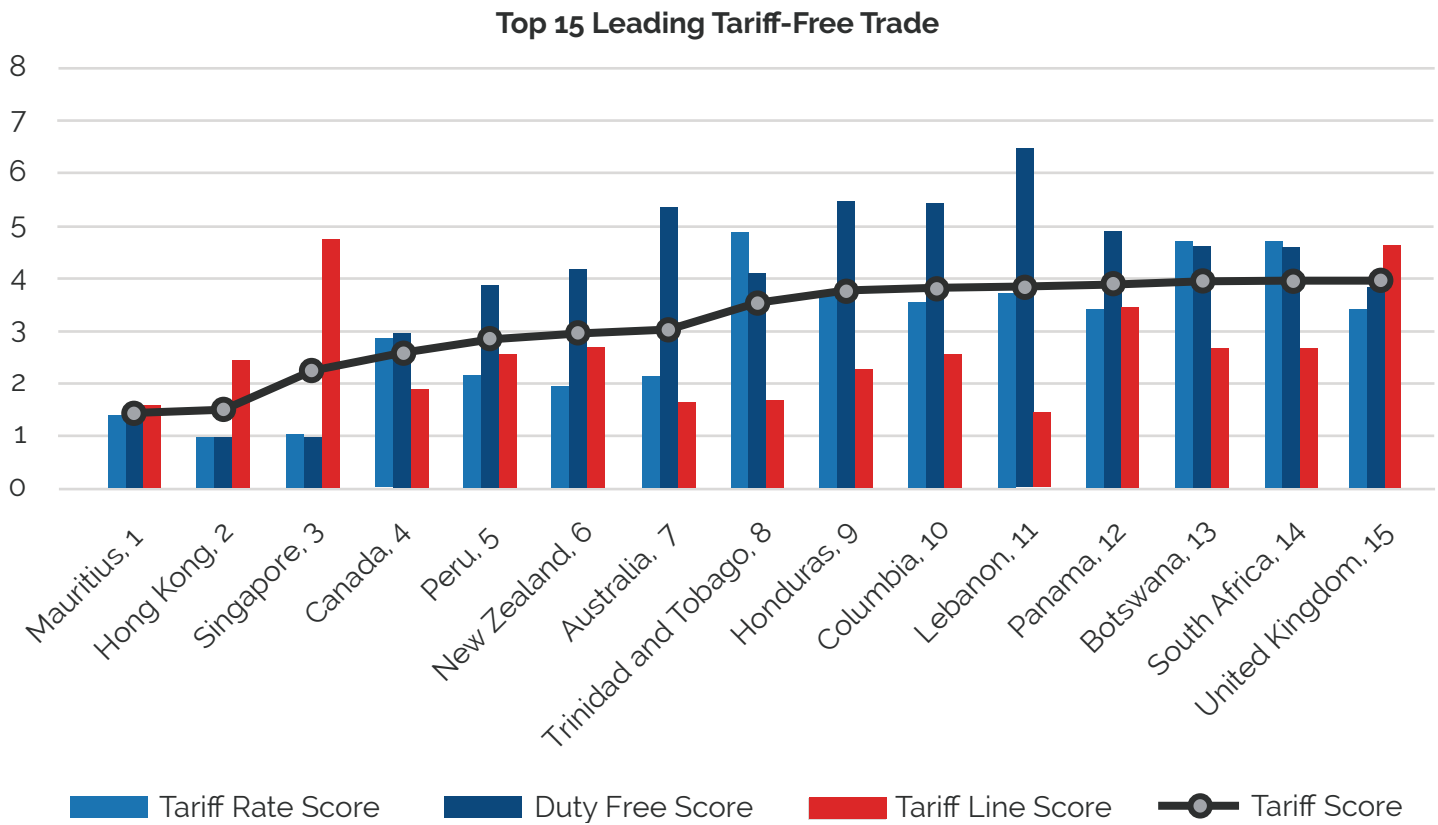


Figure 7

With the addition of Mauritius, the TBI received a new leader in tariff-free trade. Mauritius just edged over Hong Kong and Singapore due to fewer tariff lines to become the most laissez-faire in the category. The other free-trade city-states have perfect scores for two out of three indicators that form the tariff measure of the TBI: MFN tariff rates of 0 percent and, consequentially, 100 percent of lines are duty-free. However, Singapore applied 10,812 tariff lines, just over the world average of 9,000. Hong Kong applied 7,583, while Mauritius applied only 6,412 (Figure 7).

The leading story revealed in the Tariff section is the remarkable outcome of Brexit for the United Kingdom. Determined to separate from the European Union, already a vast free-trade zone with notably low trade barriers with the rest of the world, the UK faced a daunting task. In the end, the UK wrote its own UK Global Tariff schedule that reduced the average MFN tariff rate, increased the duty-free amount to 60 percent, and eliminated nuisance tariffs that were 2 percent or below. This allowed the UK to improve its tariff score by 25% to reach 15th in the section overall.

In addition, the UK improved in the Facilitation component of the TBI by negotiating and signing over 60 continuity or bridging agreements. These include an agreement with the European Union and a substantial agreement with Japan that added a forward looking digital chapter absent from the EU-Japan agreement. Overall the UK moved from 8th to 4th in the Index (Figure 3).

IV. Non-Tariff Measures

The 15 Heaviest Users of NTMs

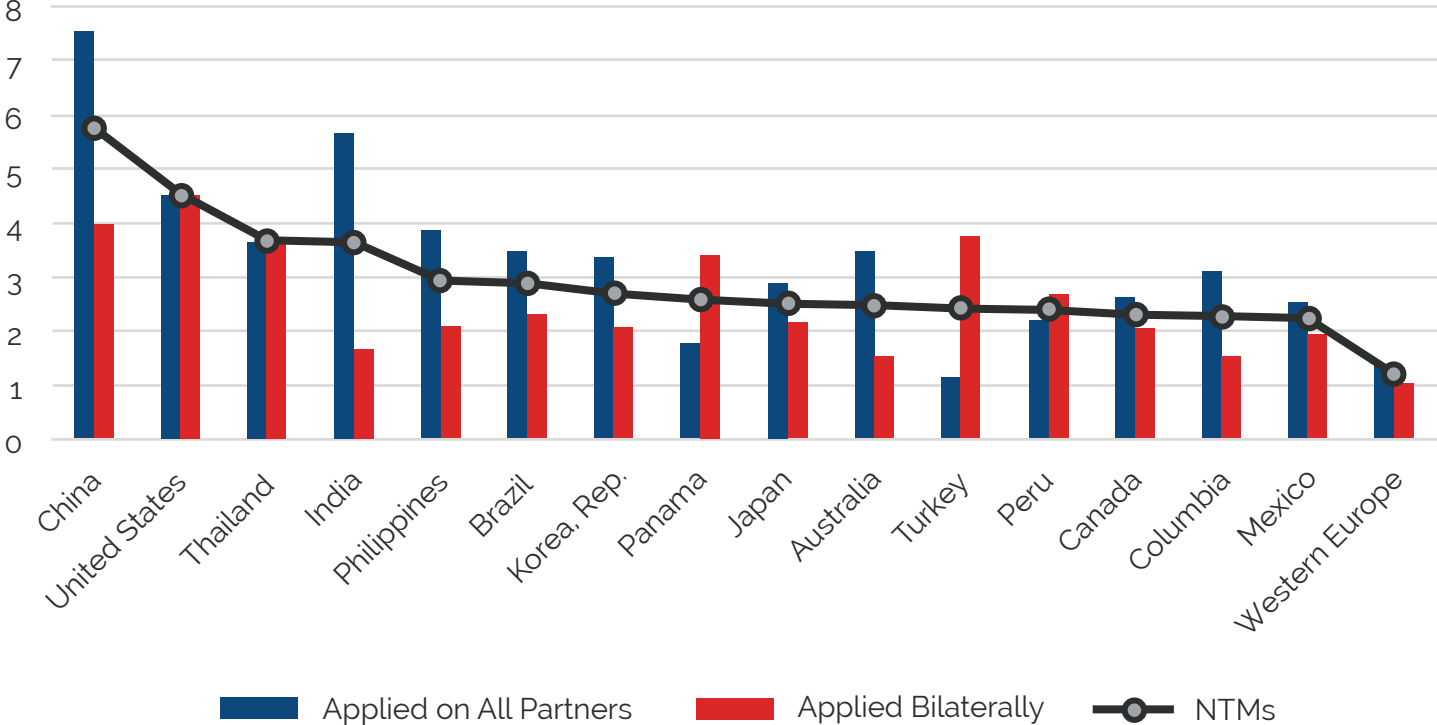


Figure 8

Trade Facilitating and Restricting Non-Tariff Measures Applied to All Countries in Response to COVID-19

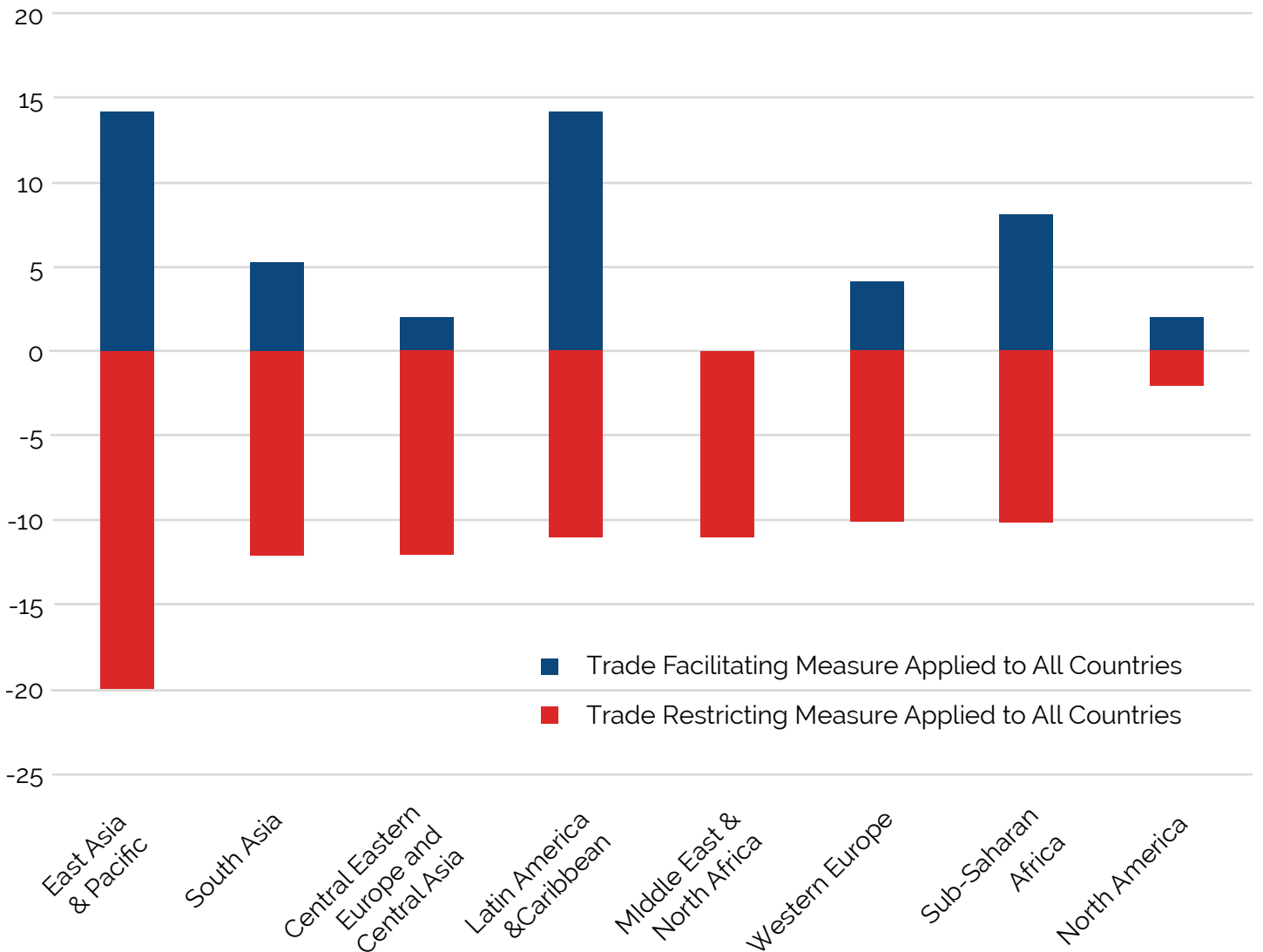


Figure 9

Throughout 2020, the world saw dramatic use of non-tariff measures applied to COVID-19 related protective equipment and medical products. United Nations Conference on Trade and Development (UNCTAD) researchers tracked more than 280 uses of NTMs designed to facilitate or restrict trade in these goods. In Figure 8 we see that, of countries included in the TBI, East Asia & the Pacific followed by Central Eastern Europe and Central Asia deployed the most trade NTMs restricting imports of COVID-19 products.

Specifically, India, Turkey, Korea, and Vietnam implemented the most trade restrictions on COVID-19 related products. These were largely export prohibitions, export licenses, or authorization requirements to export items such as: hydroxychloroquine, diagnostics tools, test kits, sanitizers, and masks. Other common restrictions were SPS measures that restricted imports of live animals, fruit, and for certain countries, shoes and second hand clothes – ostensibly to prevent the unintentional import of the COVID-19 virus. Consistent

with the TBI, many of these countries are heavy users of NTMs generally. An exception to this rule was the United States, which waived some existing NTMs on medical products (Figure 9).

On the other hand, East Asia and Latin America & the Caribbean led in implementing trade facilitating measures for COVID-19 products. While states that heavily manage trade such as Indonesia, Brazil, and Argentina led in implementing trade facilitating measures to ease the burden of COVID-19 related supplies coming into their country, they also added trade restrictions to keep them from leaving. By far, the most common facilitating measure was to waive tax and duty charges for COVID-19 related medical products, followed by financial relief for importing businesses

V. Services

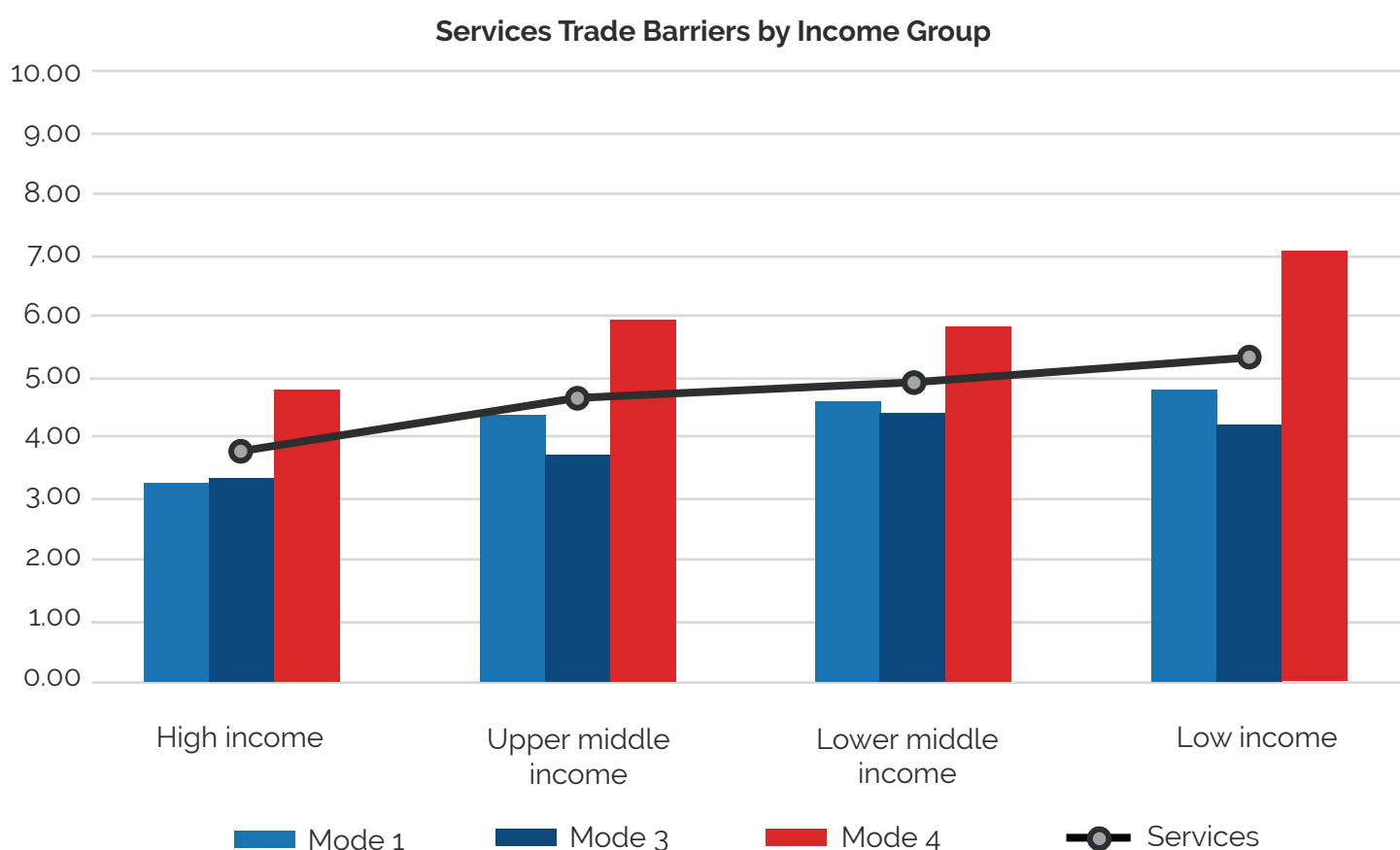


Figure 8

The TBI utilizes the World Bank Services Trade Restrictions database to assess restrictions on cross-border (Mode 1), commercial presence (Mode 3), and presence of natural persons (Mode 4) in major services trade industries. The inclusion of Botswana, Egypt, Kenya, Mauritius, the United Arab Emirates, Ukraine, and Zimbabwe allowed the global services trade restriction score to improve 2.3%. In figure 10, there is a clear relationship between open services trade and membership in higher income groups.

While the non-tariff measure response to COVID-19 tells a story of protectionism vs openness, services trade barriers tell a story of technology adaptation in a shifting economic climate.

Travel restrictions and lockdowns greatly affected Mode 4 services, but responsive governments were able to liberalize certain services to complement the accelerated transition to digitally enabled services. High income countries, already with fewer barriers to participating in services trade, eased restrictions to digitally enabled trade such as app-enabled delivery services and telehealth visits. However, they led in proposing long-term digital restrictions (Figure 12). Generally, there was an improvement in the regulatory landscape to allow working from home and online business operations.

As COVID-19 inoculations become commonplace in higher-income countries, the mobility restrictions and other rules on gatherings that restricted trade in services are disappearing. Middle-income countries with higher barriers to trade, especially Mode 3 services that restrict competition in telecom and internet services, should be alarmed. These barriers will continue to digitally isolate their economies while others sprint ahead.

VI. Facilitation

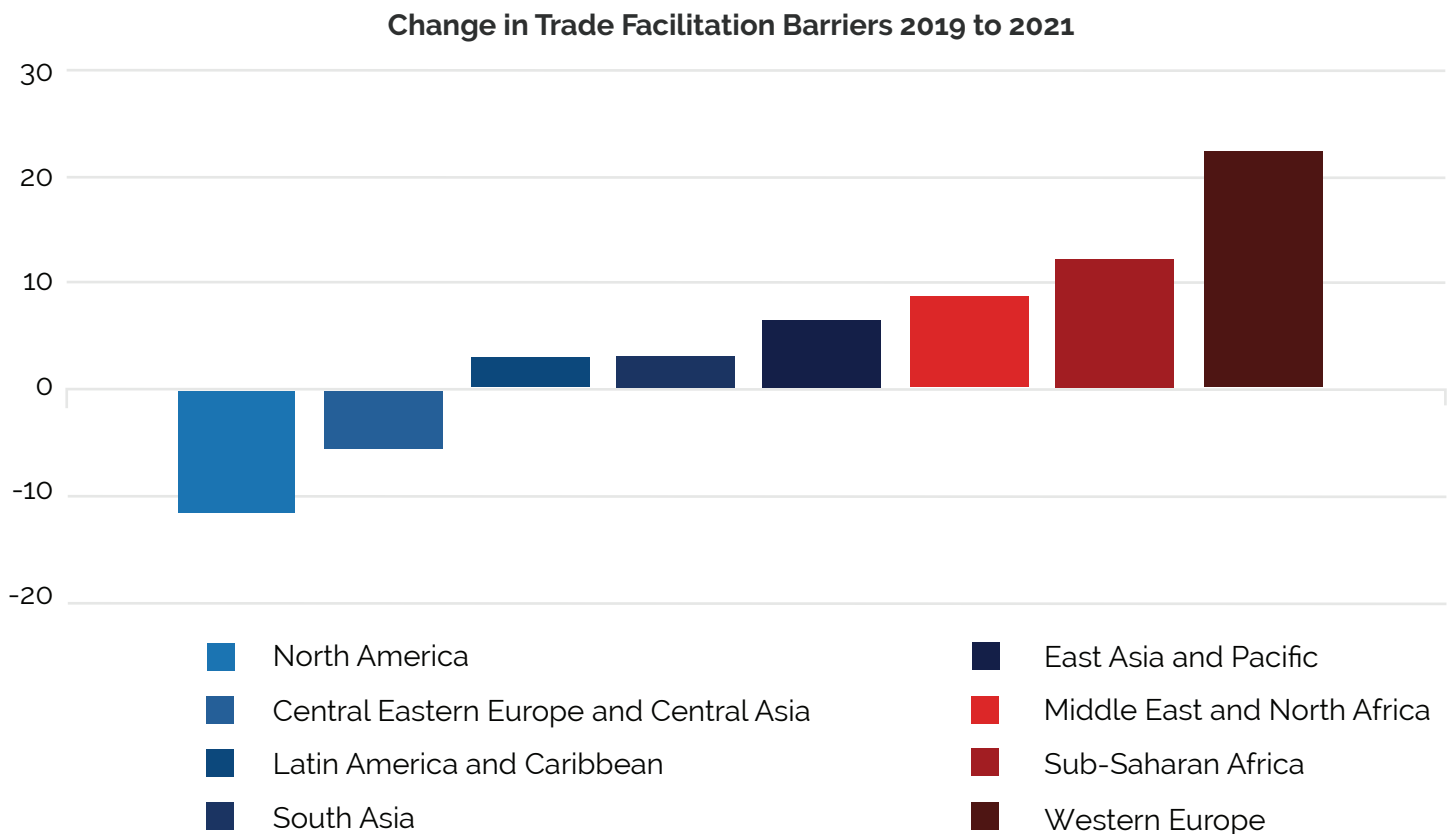


Figure 11

Despite trade wars conducted by the United States to confront China over unfair trade practices and on countries that export steel and aluminum, North America managed to be the most improved in the Facilitation category (Figure 11).

This is due in part to the U.S. refraining from digital trade barriers, improvement in logistics for both Canada and the United States, as well as Canada signing one more trade agreement, which was with the UK (Figure 12).

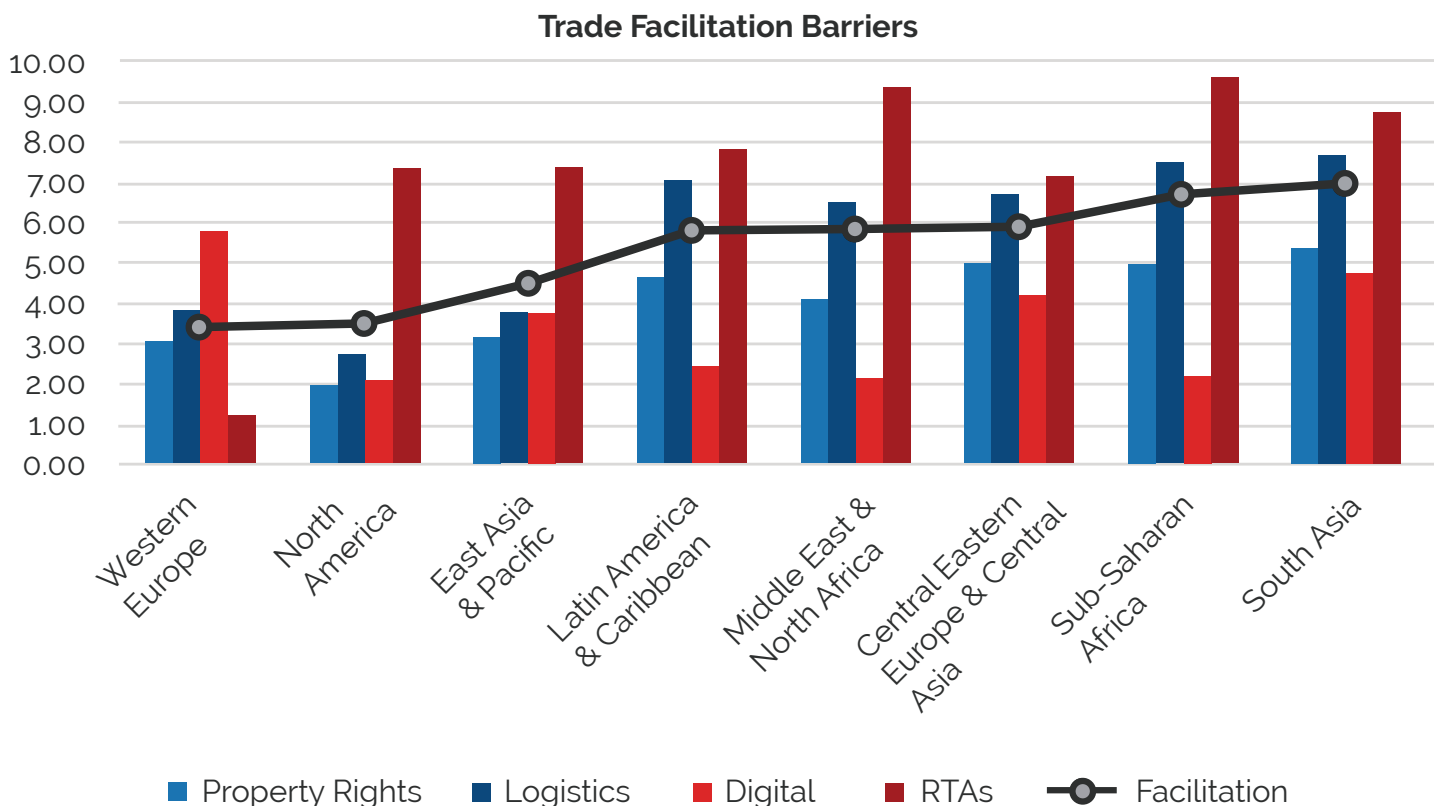


Figure 12

The 2021 TBI updated the methodology used to calculate Digital Trade Barriers, which consists of quantifying the number of regulations that are proposed and implemented that can be classified as one of seven digital trade barriers: content localization, content moderation, data flow barriers, security barriers, digital taxes, gig economy barriers, or other onerous regulations. See Table 1 for examples of how different types of barriers are classified in the Index.

Overall, India, Indonesia, and China impose the most digital trade barriers, relying heavily on content moderation, backdoor encryption keys, and data localization for servers (Figure 13). As a region, Western Europe (Figure 14) takes the lead. This is due to Europe's General Data Protection Regulation (GDPR), Digital Markets Act, Digital Services Act, and Digital Services Taxes (DSTs). These measures include numerous regulations that impose significant barriers including content moderation, restrictions on how and what type of data can cross borders, and taxes.

The 5 Heaviest Users of Digital Trade Barriers

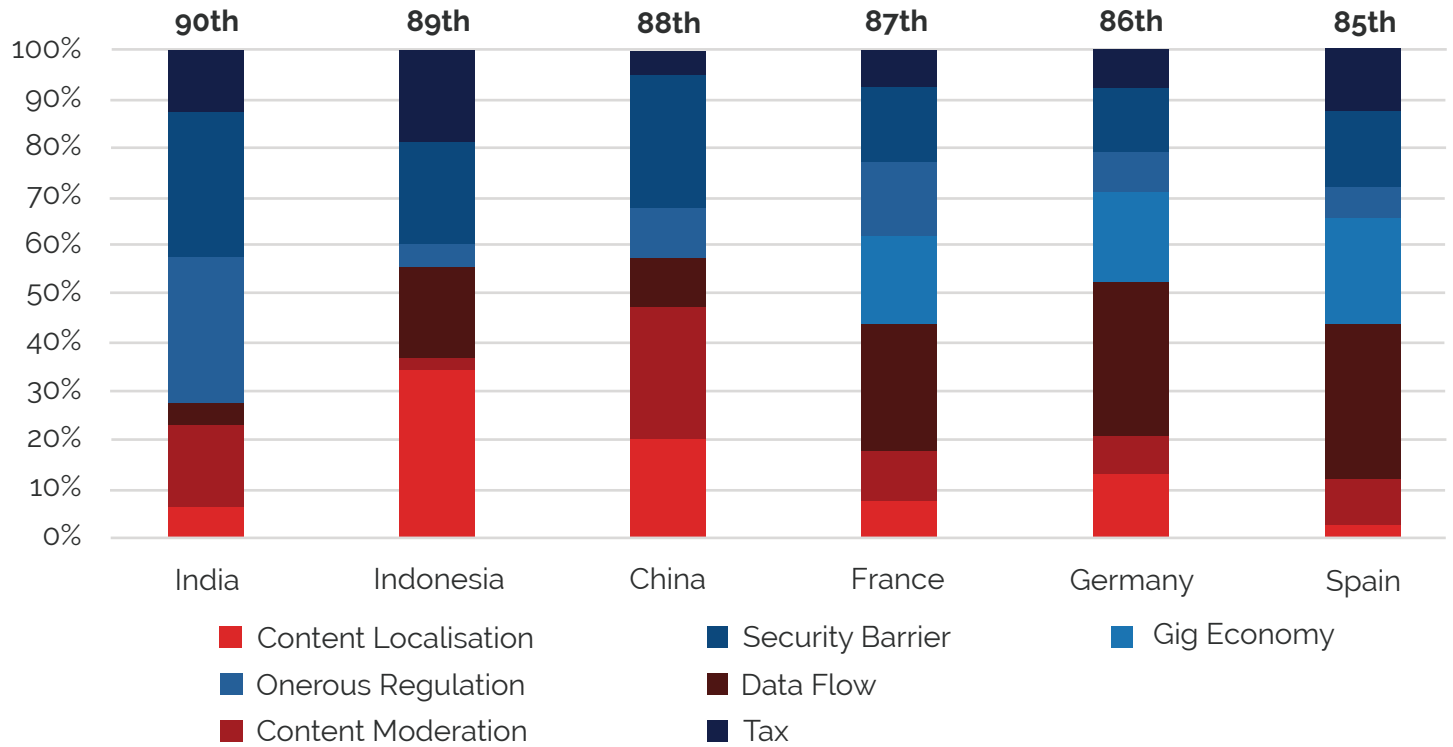


Figure 13

Digital Trade Barriers by Region

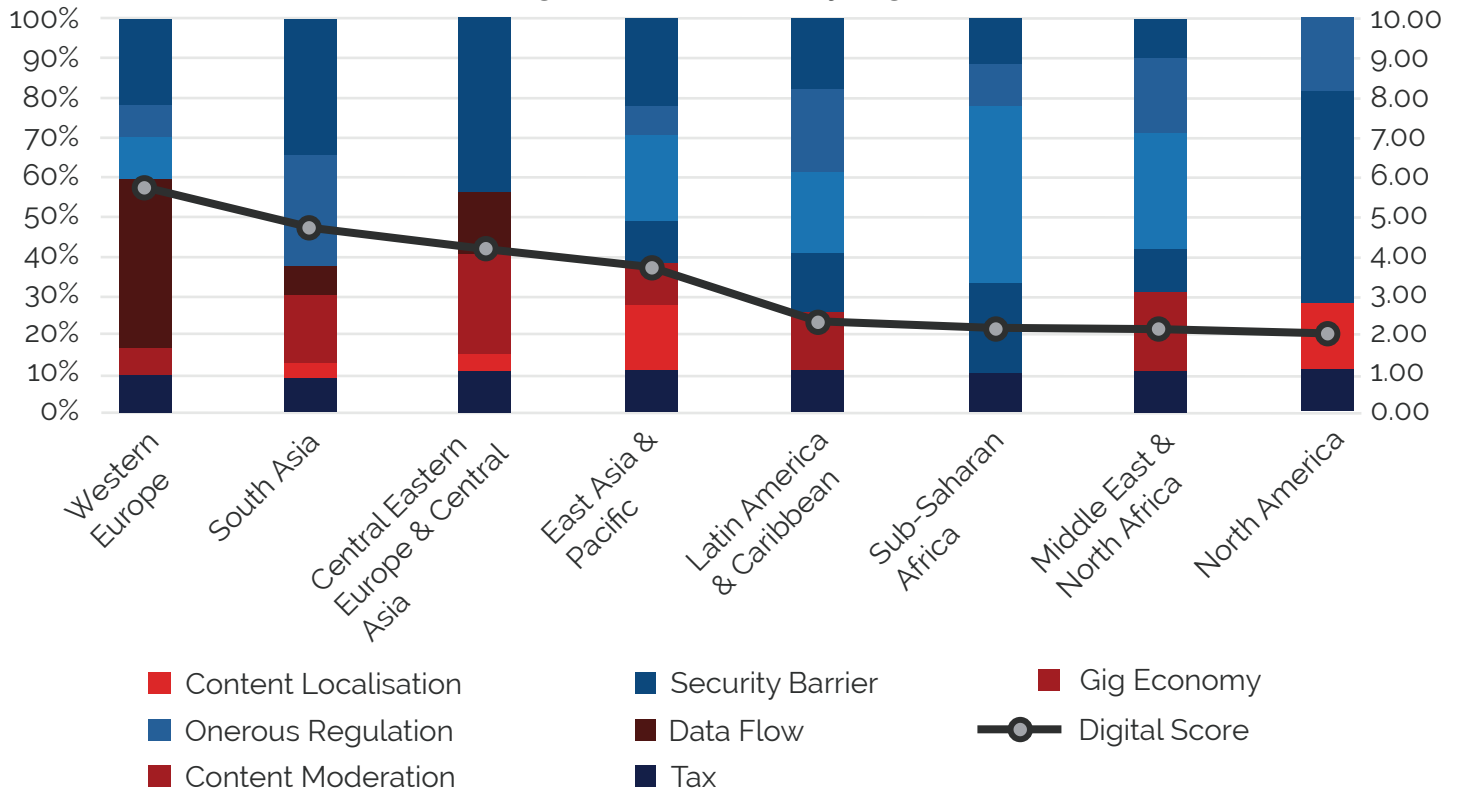


Figure 14

Taxonomy of Digital Trade Barriers

- 1. CONTENT LOCALISATION:** Regulations requiring or preferencing the use of local materials, local ownership, or local firms.
 - Rules in **China** that require a local partner and permit to deliver cloud services
 - In **Indonesia**, rules that require physical presence to operate OTT services
 - **Germany's** film levy which is extended to foreign VOD services and used to fund local film production
- 2. CONTENT MODERATION:** Regulations that require content screening, impose liability on platforms for speech, or ban use of social media apps
 - **India:** Draft rules would impose liability on platforms for the spread of misinformation and require platforms to trace the origins of misinformation. A **Singapore** version requires platforms to publish corrections to falsehoods spread online.
 - **Brazil, India, China, UAE, Morocco, Oman** and more have banned or throttled social media during times of political unrest.
- 3. DATA FLOW RESTRICTIONS:** Regulations on the use and sharing of data, neutrality requirements, or opaque intermediary liability
 - The many GDPR rules imposed by the **European Union** burden many online businesses with compliance costs. Repeal of the **U.S.** Privacy Shield agreement adds more uncertainty to data flow.
 - A new bill in **Panama** limits the type of consent needed for cross-border data flow.
- 4. GIG ECONOMY RESTRICTIONS:** Regulations limiting the free-enterprise of app-enabled commerce
 - **German** regulations require app-based transportation drivers to be licensed as for-hire vehicles and impose a return-to-garage rule after each trip. In **Argentina**, drivers can be solicited only through phone or e-mail.
 - Social media influencers in the **United Arab Emirates** are required to obtain a license for any paid or unpaid services.
- 5. ONEROUS RESTRICTIONS:** Burdensome technical requirements that are unnecessary or overly broad
 - In **India**, a draft rule requires Safety Data Sheets for ICT goods intended for consumer use.
 - **New Zealand's** static copyright list limits IP protections for artificial intelligence & machine learning.
 - Draft regulations in **Brazil** and **Bangladesh** would label all electronic waste as hazardous.
- 6. SECURITY BARRIERS:** Regulations that use security as a premise to impose data localization and other trade barriers
 - **Australia, China, Russia, and Vietnam** and others require encryption keys to be surrendered. In **South Korea** the public sector is limited to use specified encryption algorithms.
 - Security related laws require data localisation for specific sectors in several countries including **Brazil, China, the European Union, India, Indonesia, and Russia.**
- 7. DIGITAL TAXES:** Taxes on the digital economy such as Digital Service Taxes, ad taxes, link taxes, VAT on digital sales, tariffs on ICT products, and proposed tariffs on electronic transmission.
 - Several countries have proposed DSTs and others have already imposed such taxes, including **Austria, France, Italy, and Turkey.**
 - **India** imposes an equalization levy on goods and services purchased through foreign e-commerce sites.

VII. Trade Barriers and People

At the end of the day, it is ordinary people and small businesses that drive global trade. The 90 countries in the 2021 TBI house 84 percent of the world's population. In the freest range, those with a score reaching 2.99 or lower, only 6 countries with a combined population of 142 million, or 2 percent of the world's people, enjoy the most barrier-free-trade. In the mostly-free range, with a score between 3 and 4.99, resides 2.5 billion people, or 32 percent of the world distributed in 71 countries. In the highly protected range between 5 and 6.99 live 3.8 billion people in 13 countries, including China and India (Figure 15).

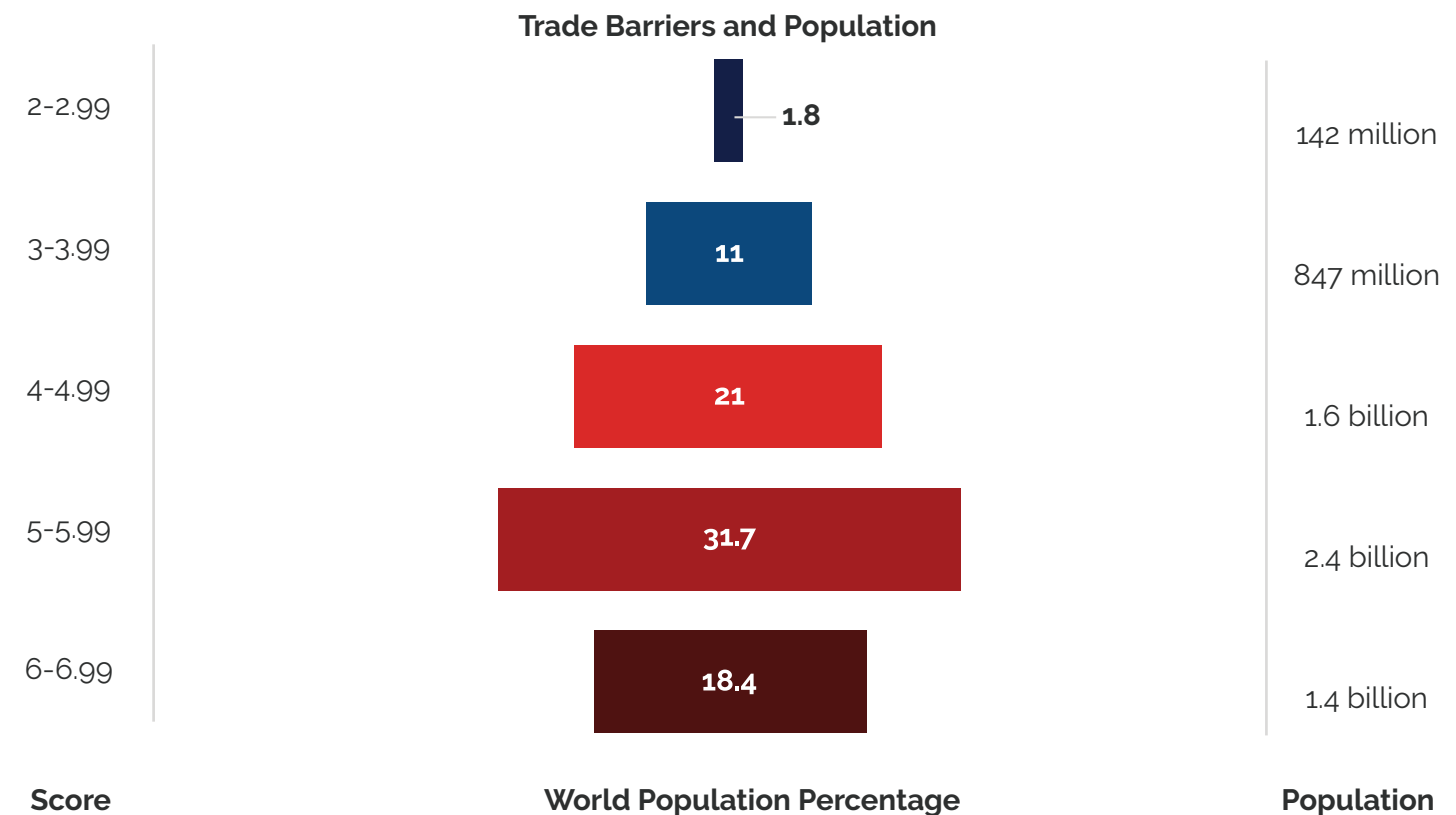


Figure 15

VIII. Correlations with Freedom and Commerce

To analyze the effectiveness of the TBI at capturing trade barriers as an abuse of liberty, scores were correlated with established indices dedicated to measuring freedom and other social indicators (Figure 16). The TBI correlated strongest with the Cato Institute's Human Freedom Index .79 and the Legatum Institute's Prosperity Index .77. Both utilize a large number of indicators, 79 and 104 respectively, covering much more than trade. It demonstrates a clear relationship between the freedom to trade and other coherent and complimentary policy choices that lead to greater levels of freedom and prosperity.

Similarly, a robust correlation was found between the perception of corruption .72, inclusive internet .63, and press freedom at .61 with the TBI. The measures lend credibility to the arguments that reducing trade barriers allows ideas to be exchanged freely and reduces the power of the well connected to advocate for restrictions at the expense of the others.

Correlations with Freedom and Commerce

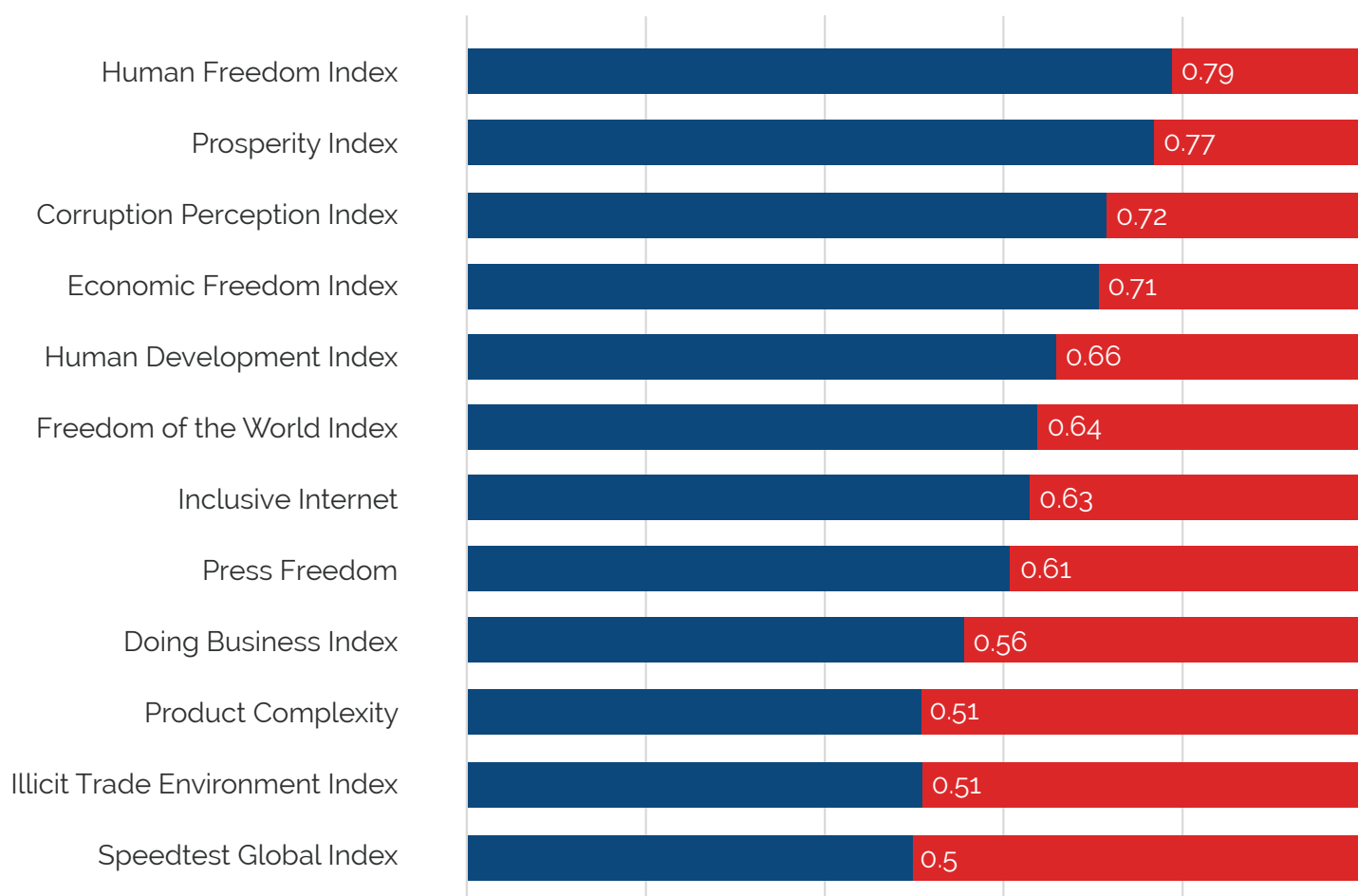


Figure 16

IX. TBI Case Studies and Abstracts



Mercosur and the Automobile Industry: Trade Diversion and Protectionism in the Southern Cone

By: Pedro Raffy Vartanian & Vladimir Fernandes Maciel, the Mackenzie Center for Economic Freedom, Brazil

In the 1980s, Brazil and Argentina began several partnerships, signed through bilateral agreements that resulted in MERCOSUR. Three factors can be pointed out as the main determinants of the strengthening of Brazil-Argentina relations: the return of the fullness of the democratic regime to countries, the crisis in the international economic system and the overcoming of geopolitical divergences.

The first agreements that preceded MERCOSUR was the Iguazu Declaration, signed by the Brazilian and Argentinian governments in 1985. It aimed to promote the integration of several areas, such as economic, financial and energy. Already in 1986, the Brazilian-Argentinian Integration Act undertook a program of selective opening of the markets of the two countries. Two years later, a new treaty, called the Integration, Cooperation and Development Treaty, set a goal of full trade liberalisation between the two countries by 2008, with the removal of all tariff and non-tariff barriers.



South Africa's Next Steps for Trade Liberalization

By: Christopher Hattingh, Free Market Foundation, South Africa

The COVID-19 lockdowns that started in March 2020 (at time of writing, South Africa is at Level 1 of lockdown) devastated an already weak economy. Before the pandemic, more than 10 million people were unemployed – now it is more than 11 million. Using the expanded definition, the unemployment rate is over 42%.¹ The pandemic and lockdowns served to expose the extent to which the ill-considered ideological and policy positions of the government had hobbled people's economic fortunes.



Benefits of Bilateral and Multilateral Free Trade Agreements

By: Natalia Gonzalez & Tomas Flores, Libertad y Desarrollo, Chile

In 1990, President Patricio Aylwin initiated a new stage in Chile's international relationships, addressing the issue as a State Policy. For over three decades, Chile has negotiated and agreed to multiple protocols, agreements, and treaties with countries on almost every continent. Increasingly, Chilean foreign policy has become a more important means favoring the internationalization of our economy. Those agreements and treaties have contributed to (i) amplify, diversify, and densify our external relationships, (ii) widen cooperation horizons, and (iii) develop working agendas of mutual or common interest, as applicable, among the countries

1. In South Africa, the 'expanded' or 'broad' definition of unemployment includes those people discouraged from seeking work.

or economies involved. Hence, Chilean foreign affairs policy and commercial/trade policy have played a complementary role in the effort to re-insert Chile into the international community.



The Effects of Pre-Shipment Inspections (PSI) on Food Trade in Indonesia

By Kukuh Sembodho & Arumdriya Murwani, Center for Indonesian Policy Studies, Indonesia

While tariffs on international trade have been declining, non-tariff measures (NTM) have increased in recent years. Their less visible and opaque nature allows NTMs to circumvent trade agreements and be used for the protection of domestic production. Pre-Shipment Inspections (PSI) are one of the NTMs widely applied by the Indonesian government on various commodities, including rice and horticultural products. PSI impose additional costs that increase import prices stemming from the cost of third-party services and costs due to delays. This case study explains the effects of PSI on food trade, consumption patterns, and nutrition intake of low-income Indonesians.



Protectionist Tariffs Compromising Sri Lanka's Middle-Income Earners' Right to Shelter

By Sathya Karunaratne & Aneetha Warusavitarana, Advocata, Sri Lanka

Sri Lanka's Urban Development Authority (UDA) states that over fifty percent of Colombo's (the island's capital) population lives in underserved settlements and a total of 68,812 families living in 1,499 community clusters have no access to basic infrastructure facilities such as clean water, electricity, sanitation, etc. A part of Sri Lanka's housing problem is attributed to the extortionate tariffs on essential construction goods and materials. These sky-high tax regimes accentuate the discriminatory inefficiencies that exist within Sri Lanka's housing sector, which compromises the average Sri Lankan's ability to construct their own house. The average domestic consumer is placed in a position of difficulty, while the domestic producer benefits vastly from the regressive tax regime in place. The exorbitant prices of imported construction goods and materials contribute toward creating a captive market, thereby allowing domestic producers to snowball their prices to the point where they enjoy supernormal profits. The price-taking consumer is now faced with a dilemma of choosing between costly imported raw materials and inflated local goods.



The Illicit Trade of COVID-19 Items: Poor Trade Enforcement as a Barrier to Access

By: By Giorgina Agostini, Rowan Saydlowski, & Philip Thompson, Property Rights Alliance, U.S.A.

On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 virus a pandemic. Since then, the global GDP fell by 4.5%, over 3.7 million deaths and 117 million cases have been recorded, and healthcare systems were put to the ultimate test as hospitals were overcrowded and supplies were limited. The desperation of the public to seek immunity and COVID-19 related medical supplies created a golden opportunity for criminal syndicates to manufacture and sell counterfeit, unauthorized, and substandard COVID-19 vaccines, personal protective equipment (PPE), oxygen tanks, and medicines.



The Proliferation of Digital Trade Barriers Threatens Innovation, Free Trade, Competition, and Free Speech

By: Philip Thompson & Andreas Hellmann, Americans for Tax Reform, USA

Since the early days of the World Trade Organization addressing potential trade barriers for cross-border data transmissions and e-commerce were considered within the scope, and a necessary mission of the organization. In 1998 the WTO began the Program on Electronic Commerce which sought recommendations from relevant bodies for the General Council to ensure that free-trade rules would extend to electronic commerce. As work on cross-cutting e-commerce issues progressed over time between WTO bodies the Council has continued to extend a moratorium on customs duties for electronic transmission.



Lessons in High Tobacco Taxes and Smuggling in the Philippines

By: Bienvenido S. Oplas, Jr., President, Minimal Government Thinkers, The Philippines

High and rising taxation of tobacco products is a favorite policy measure of governments, multilateral institutions, health NGOs and other sectors. The belief is that making tobacco products become more expensive via higher taxation achieves two socio-economic goals: to reduce smoking incidence in the population and to raise revenues for government universal healthcare (UHC) program. Yet, as tobacco taxes rise, smuggling is also a favorite response by criminal syndicates, terrorist organizations, and corrupt government officials, national and local. The smoking public patronize the cheaper smuggled products.

x. Structure and Methodology

The TBI is composed of four pillars: Tariffs, Non-Tariff Measures, and Services restrictions represent the most direct, and often used, trade barriers. The fourth component, Facilitation, captures necessary components to allow trade to happen: membership in Regional Trade Agreements, restrictions on digital trade restrictions, the property rights ecosystem, and logistics performance. The TBI, as a composite index, captures these elements from various internationally recognized measures and scales the scores on a range between 1 and 10. Where 1 indicates the least use of trade barriers and 10 indicates the most use. Each pillar includes sub-components as illustrated in figure 1. Complete data sources can be found in Appendix I.

Methodology—Tariffs

In order to get a full picture of how each country uses tariffs as a discriminatory tool the TBI identifies three tariff measures: the Applied Simple Average Most-Favored-Nation (MFN) Tariff rate, the actual number of MFN applied lines, and finally the share of tariff lines that are duty free. The data source for these measures comes from the latest year available on the World Trade Organization's (WTO) "[World Tariff Profiles 2020](#)" report.

When data for 2020 was not reported, namely by the United Kingdom, Cameroon, Guatemala, Honduras, and Trinidad & Tobago it was supplemented by the latest available data in World Tariff Profiles Report for which data was reported. Details on the year and source for tariff data can be found in Appendix III. In the case of the United Kingdom which published a new tariff schedule, data was reported from official press releases.

Below is an explanation for choosing each measure and the methodology used to normalize them into the TBI.

MFN simple average applied rate: This represents the country's the average tariff rate placed on imported goods before a lower rate from a Regional Trade Agreement (RTA) or Preferential Trade Agreement (PTA) is applied. It is normalized through the min max function, the max is set to 19 which is the highest tariff rate in the TBI group of countries, belonging to Algeria.

Number of MFN applied tariff lines: The latest HS 2017 revision has 5,387 separate tariff lines, or groups of goods identified by a 6-digit code. Countries may create national lines by creating subcategories of goods leading to 10 digits codes. Therefore, the number of tariff lines in use is a key indicator of how heavily tariffs are used as barriers to trade. The min-max method was used to normalize tariff lines in the TBI. Nepal uses the fewest tariff lines at 5,576 while Morocco uses the most at 18,272.

Share of MFN duty-free tariff lines: Not all tariff lines in use are assigned a tariff rate, some are duty free. Though, the tariff line number is still used to identify goods and non-tariff measures, or for other administrative purposes. This measure rewards countries with higher shares of duty-free lines by inverting the number then normalizing it through standard min-max formulation to account for the share of regulations that allow for tariff-free trade. Morocco and Pakistan have no lines duty free, while Singapore and Hong Kong have 100% of lines are duty free.

$$\text{Tariff Score} = (\text{MFN AHS} + \text{MFN applied lines} + \text{Duty Free lines})/3$$

Methodology—Non-Tariff Measures

Apart from tariffs on goods, non-tariff measures are known as regulatory barriers that impose additional import requirements that result in longer shipping times, extra financial burdens, and other bureaucratic obstacles that hamper the ability of goods to pass through customs and be competitive in the domestic market. The TBI uses the NTMs database developed by the UN Conference on Trade and Development (UNCTAD) Trade Analysis Information System (TRAINS) database which classifies NTM measures based on the taxonomy created by the Multi-Agency Support Team in 2012. The team included representatives from several international multi-lateral agencies including the WTO, OECD, IMF, World Bank, and the International Trade Centre

The taxonomy classifies NTMs into eight parent categories: sanitary and phytosanitary (SPS), technical barriers to trade (TBT), pre-shipment inspection, contingent trade protective measures, quantity control measures, price control measures, export-related, and lastly a category for other measures.

The TBI-NTM score separates the total number of these measures applied bilaterally and those applied to all trade partners. The number of measures in each eight components in each group are normalized through the min-max function, unbounded. Finally, the sub-component scores Applied to All Partners and Applied Bilaterally are each the mean of the eight normalized scores of their component.

NTMs **Applied on All Partners** = (Contingent trade protective measures + Export-related measures + Other measures + Pre-shipment inspection + Price control measures + Quantity control measures + SPS + TBT)/8

NTMs **Applied Bilaterally** = (Contingent trade protective measures + Export-related measures + Other measures + Pre-shipment inspection + Price control measures + Quantity control measures + SPS + TBT)/8

$$\text{NTM} = (\text{NTM All Partners} + \text{NTM Bilateral})/2$$

Source: <https://trains.unctad.org/>

Methodology—Services Restrictions

Services increasingly account for a growing share of trade and world GDP. The TBI utilizes the Services Trade Restrictions Database (STRD) developed by the Development Economics Research Group at the World Bank. The STRD through extensive legal surveys measures services restrictions based on modes 1, 3, and 4 identified in the General Agreement on Trade in Services (GATS) agreement administered by the WTO. It further identifies restrictions in relation to major service industries: retail, telecom, financial, transportation, and professional.

MODE 1 restrictions on Cross-Border Supply: refers to restrictions on entry of services such as licensing requirements, commercial presence requirements, rules on providing services through telecommunications or e-mail.

$$\text{Mode 1 (Cross Border)} = (\text{Financial mode 1} + \text{Transportation mode 1} + \text{Professional services 1})/3$$

MODE 3 restrictions on Commercial Presence: refers to limits on ownership of a business, limits on type of businesses allowed, the number of suppliers in the marketplace, restrictions on operations, and the regulatory regime for foreign businesses.

Mode 3 (Commercial Presence) = (Financial mode 3 + Telecom mode 3 + Retail mode 3 + Transportation mode 3 + Professional services mode 3)/5

MODE 4 restrictions on Natural Persons: these are chiefly occupational licensing requirements, visa requirements, local staff quotas, and economic needs tests.

Mode 4 (Presence of Natural Persons) = mode 4 restrictions on presence
Services = (mode 1 + mode 3 + mode 4)/3

Source: <http://iresearch.worldbank.org/servicetrade>

Methodology—Facilitation

Trade barriers are not limited to active measures designed to restrict imports. The behind the border regulatory environment also plays a role in ensuring that traded goods and services can cross borders unimpeded. In developing the TBI authors identified the most-essential and least intrusive indicators necessary to encourage trade facilitation. These are property rights, logistics performance, participation in Regional Trade Agreements, and limited restrictions on digital trade. Below are a description of each measure and the index used.

In this way countries that score well in trade Facilitation are able to demonstrate that data as well as physical goods and services can travel into, out of, and through the territory without further direct barriers such as tariffs and technical product regulations. The countries are able to extend property right protections to traded goods, crucial to combating illicit trade and forms of intellectual property theft that can plague the trade facilitation environment; and at the same time ensure preferential market access abroad and common standards with trade partners.

The TBI-facilitation component chose four measures to serve as a barometer for the facilitative environment in each country. These are property rights, logistics performance, participation in Regional Trade Agreements, and limited restrictions on digital trade. Below are a description of each measure and the index used

The International Property Rights Index (IPRI): Inspired by renown economist Hernando de Soto, the IPRI assesses the legal and political environment, physical property rights protection, and protection of intellectual property rights of 129 countries. The IPRI is a composite index based on data from the World Bank Doing Business Index, World Bank Governance Indicators, the Competitiveness Index from the World Economic Forum, the Park Patent Index, and the BSA Global Software Survey. The IPRI scores are already normalized to a 1 to 10 scale. They are inverted to match the TBI scoring of one (least trade restricting barriers) and ten (most restrictive).

Source: <http://www.internationalpropertyrightsindex.org/>

Logistics Performance Index (LPI): Created through a worldwide global survey of freight forwarders and express carriers as well as incorporating quantitative performance data the LPI measures essentials necessary to efficiently transport goods across borders: customs management, basic infrastructure, ease of arranging shipments, quality of logistics, ability to track and trace, and timeliness.

The LPI score is inversed then the min max formulation is applied to normalize the scores to a 1 to 10 scale.

Source: <https://lpi.worldbank.org/>

Regional Trade Agreements (RTA): TBI that acknowledges that RTAs are the most effective and most common policy instrument used to reduce trade barriers and increase market-access. The measure chosen to include in the TBI was the number of physical RTAs in force and notified to the WTO, and its predecessor the GATT. The number of RTAs were normalized through the min-max method.

Source: WTO Regional Trade Agreements Information System (RTA-IS); <https://rtais.wto.org/UI/publicPreDefRepByCountry.aspx>

Digital Trade Restrictions: In this Second edition of the TBI this indicator was updated from the Digital Trade Restrictiveness Index developed by European Centre for International Political Economy (ECIPE) to measure developed in house capable of capturing annual changes to the global digital trade environment. The new index (Appendix IV) identifies seven types of digital trade restrictions and provides 10 points for each proposed restrictions that is under consideration and 20 points for each restriction already imposed, and 60 points for policies designed to severely limit the competitive advantage offered by a digital platform. The total scores for each country is then summed and normalized through the min max function, the max was set to 470 (India) and the minimum was 10 (a scored shared by Ecuador, Qatar, and Senegal).

XI. Imputing scores

As a composite index the TBI is constructed from seven well-known international and authoritative indexes. The TBI includes all countries where 85 percent of data is available, or only one component index is able to be missing. Scores are imputed for countries that were missing data from one source.

The imputation process was completed by calculating the absolute distance between the country's available scores and all scores in its associated region and income group. The score from the group with the shortest absolute distance was chosen to replace the missing value. A complete list of countries requiring an imputed value along with their income and regional group scores before imputation can be found in Appendix V.

Appendices

Appendix I Data Sources

TBI-2021	Data	Download Date	Min-Max	Year	Source	Link
SUBINDEX: TARIFFS	Simple Average MFN Applied	Aug. 11, 2021	0-100	2020	2020 WTO Tariff Profiles	https://www.wto.org/english/res_e/publications_e/world_tariff_profiles20_e.htm
	Duty Free Score		0-100	2020		
	Tariff Line Score		0-infinite	2020		
UNITED KINGDOM TARIFF INDICATORS	Duty Free Score	May 19, 2020	0-infinite	2020	Government of the UK	https://www.gov.uk/government/news/uk-global-tariff-backs-uk-businesses-and-consumers
SUBINDEX: NON-TARIFFS MEASURES	Non-tariff measures applied to all countries	July 1, 2021	0-infinite	As of July 1, 2021	UNCTAD-TRAINS Database	https://trains.unctad.org/
	Non-tariff measures applied bilaterally		0-infinite			
SUBINDEX: SERVICES RESTRICTIONS	Mode 1	Jan. 12, 2021	0-100	2018	The World Bank's Services Trade	https://www.worldbank.org/en/research/brief/services-trade-restrictions-database
	Mode 3					
	Mode 4					

TBI-2021	Data	Download Date	Min-Max	Year	Source	Link
IPRI-FACILITATION	Property Rights	Nov. 17, 2021	0-10	2020	2020 International Property Rights Index	https://www.internationalpropertyrightsindex.org/
	Logistics	June 11, 2021	0-5	2018	United Nations. Population Division. World Population Prospects: The 2017 Revision	https://population.un.org/wpp/Download/Standard/Population/
	Digital Trade	July 9, 2021	0-infinite	2021	TBI Tracking Digital Barriers	See Appendix XX
	Regional Trade Agreements	Aug. 10, 2021	0-infinite	2021	WTO Regional Trade Agreement Database	https://rtais.wto.org/UI/Public-MaintainRTA-Home.aspx
Data for Country Regional and Income Classification						
INCOME & REGIONAL CLASSIFICATIONS	Country Group Classifications	Jan. 11, 2021		As of June 2020	World Bank List of Economies	https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

Appendix II Data Sources Correlations

Index Name	Download Date	Year of Publication	Publisher	Link
World Bank Doing Business Index	June 11, 2021	2020	World Bank	https://www.doingbusiness.org/en/data/doing-business-score
Human Freedom Index	June 3, 2021	2020	Cato	https://www.cato.org/human-freedom-index/2020
Prosperity Index	June 3, 2021	2020	Legatum	https://www.prosperity.com/about/resources
Human Development Index	June 10, 2021	2019	United Nations Development Programme	http://hdr.undp.org/en/content/download-data
Index of Economic Freedom	June 11, 2021	2011	Heritage	https://www.heritage.org/index/
Freedom of the World	June 10, 2021	2021	Freedom House	https://freedomhouse.org/report/freedom-world
Press Freedom	July 13, 2021	2021	Reporters Withou Borders	https://rsf.org/en/2021-world-press-freedom-index-journalism-vaccine-against-disinformation-blocked-more-130-countries
Illicit Trade Environment Index	June 11, 2021	2018	The Economist Intelligence Unit and the Transnational Alliance to Combat Illicit Trade (TRACIT)	https://www.tracit.org/global-illicit-trade-index.html#:~:text=The%20Global%20illicit%20Trade%20Environment.highlighting%20specific%20strengths%20and%20weaknesses.
Corruption Perception Index	June 11, 2021	2020	Transparency International	https://www.transparency.org/en/cpi/2020/index/nzl
Product Complexity	June 11, 2021	2019	Atlas of Economic Complexity	https://atlas.cid.harvard.edu/rankings
Inclusive Internet Index	June 11, 2021	2021	Facebook and developed by The Economist Intelligence Unit	https://theinclusiveinternet.eiu.com/explore/countries/performance
Speedtest Global Index	June 10, 2021	2021	Ookla	https://www.speedtest.net/global-index
World Population	June 11, 2021	2019	The World Bank Data ID: SP.POP.TOTL	https://data.worldbank.org/indicator/SP.POP.TOTL
World GDP (current)	June 11, 2021	2019	The World Bank Data ID: NY.GDP.MKTP.CD	https://data.worldbank.org/indicator/NY.GDP.MKTP.CD

Appendix III Tariff scores from WTO World Tariff Profiles

Country/ Territory	Year of WTO Profile Report	Year of MFN applied tariff
Algeria	2020	2019
Argentina	2020	2019
Australia	2020	2019
Austria	2020	2019
Bahrain	2020	2019
Bangladesh	2020	2019
Belgium	2020	2019
Bolivia	2020	2019
Botswana	2020	2019
Brazil	2020	2019
Bulgaria	2020	2019
Cameroon	2020	2019
Canada	2020	2019
Chile	2020	2019
China	2020	2019
Colombia	2020	2019
Costa Rica	2020	2019
Côte d'Ivoire	2020	2019
Croatia	2020	2019
Cyprus	2020	2019
Czech Republic	2020	2019
Denmark	2020	2019
Ecuador	2020	2019
Egypt	2020	2019
Estonia	2020	2019
Finland	2020	2019
France	2020	2019
Germany	2020	2019

Country/ Territory	Year of WTO Profile Report	Year of MFN applied tariff
Ghana	2020	2019
Greece	2020	2019
Guatemala	2015	2015
Honduras	2020	2019
Hong Kong	2020	2019
Hungary	2020	2019
India	2020	2019
Indonesia	2020	2019
Ireland	2020	2019
Italy	2020	2019
Japan	2020	2019
Jordan	2020	2019
Kazakhstan	2020	2019
Kenya	2020	2019
Korea, Rep.	2020	2019
Kuwait	2020	2019
Latvia	2020	2019
Lebanon	2020	2019
Lithuania	2020	2019
Luxembourg	2020	2019
Malaysia	2020	2019
Mali	2020	2019
Malta	2020	2019
Mauritius	2020	2019
Mexico	2020	2019
Morocco	2020	2019
Nepal	2020	2019
Netherlands	2020	2019

Country/ Territory	Year of WTO Profile Report	Year of MFN applied tariff
New Zealand	2020	2019
Nigeria	2020	2019
Oman	2020	2019
Pakistan	2020	2019
Panama	2020	2019
Paraguay	2020	2019
Peru	2020	2019
Philippines	2020	2019
Poland	2020	2019
Portugal	2020	2019
Qatar	2020	2019
Romania	2020	2019
Russia	2020	2019
Saudi Arabia	2020	2018
Senegal	2020	2019
Singapore	2020	2019
Slovak Republic	2020	2019
Slovenia	2020	2019
South Africa	2020	2019
Spain	2020	2019
Sri Lanka	2020	2019
Sweden	2020	2019
Switzerland	2020	2019
Thailand	2020	2019
Trinidad and Tobago	2020	2018
Tunisia	2016	2016

Country/ Territory	Year of WTO Profile Report	Year of MFN applied tariff
Turkey	2020	2019
Ukraine	2020	2019
United Arab Emirates	2020	2019
United Kingdom		
United States	2020	2019
Uruguay	2020	2019
Vietnam	2020	2019
Zimbabwe	2017	2017

Appendix IV Digital Trade Restrictions Scores

Country	Measure	Classification	Score
Argentina	21% VAT tax on information technology and electronic products produced outside special economic zone	Tax	20
	Decree 690/20 ICT services are essential	Data Flow	10
	SIMI limits package receiving	Onerous Regulation	20
	Licenses for sharing economy	Gig Economy	20
	Decree 99/2019 tax on currencies bought online	Tax	20
	Sum		90
Australia	Criminal Code sharing of abhorrent material act without public consultation ambiguous and overly broad	Content Moderation	20
	Telecom assistance and access act require govt access to encryption	Security Barrier	20
	Inadequate safe harbor	Data Flow	20
	News Media and Platform mandatory bargaining code	Onerous Regulation	10
	DST	Tax	10
	Sum		80
Bahrain	PDPL privacy law contradictory and ambiguous	Onerous Regulation	20
	Central Bank of Bahrain rule OM-3.9.7 Data localization, permission needed for cloud services	Security Barrier	20
	Sum		40
Bangladesh	To classify electronic materials hazardous waste	Onerous Regulation	10
	Digital Security Act of 2018 no intermediate liability	Data Flow	20
	Digital Security Act of 2018 allows Govt to control content and stifle speech	Content Moderation	20
	VAT on digital sales	Tax	20
	Sum		70
Belarus	Amendments to the Law on Mass Media made in 2018 no intermediate liability	Data Flow	20
	Amendments to the Law on Mass Media made in 2018 requires content moderation	Content Moderation	20
	Sum		40
Brazil	PL 4255/2020 link tax provision that requires digital platforms to "pay news publishers for use of their content (other than hyperlinks)."	Tax	10

Country	Measure	Classification	Score
Brazil <i>(cont.)</i>	Fake news bill PL 2630 proposal assume liability for political speech	Content Moderation	10
	Low de minimis	Tax	20
	GSI local storage for cloud	Security Barrier	20
	LGPD implements to "adequacy" regime to permit countries to transfer data	Data Flow	20
	Tax on ICT favor local content production	Tax	20
	Bills on the right to be forgotten have been proposed	Data Flow	10
	Bill 4723/2020 data localization all personal data	Security Barrier	10
	Blocked WhatsApp	Content Moderation	20
	Debating treating online services as telecom services limiting innovation and creating artificial limits	Onerous Regulation	10
	In country testing on telecom equipment adds duplicate testing by ILAC where Brazil has INMETRO mutual recognition agreement	Onerous Regulation	20
	Conama (environment ministry) to adopt restriction on hazardous substances for electronics	Onerous Regulation	10
	Presidential Decree 8135 of November 5, 2013, and subsequent Ordinances (No. 141 of May 2, 2014, and No. 54 of May 6, 2014, localization cloud services for feds	Security Barrier	20
	BCB Circular 4031 and BCB resolution 24 limit digital money transfers on apps	Onerous Regulation	20
	Proposed tax on ads, platform permits, transfer of data	Tax	10
	Proposed DST	Tax	10
Sum		240	
Canada	ICES-003 Issue 8 non-alignment of standards for electromagnetic emissions	Onerous Regulation	10
	Canada's Broadcasting Act and Telecommunications Act (Yale Panel) to determine foreign digital media to abide by CRTC local content rules- quotas for Canadian content.	Content Localization	10
	PIPEDA privacy proposal requires companies to obtain consent for processing. Would hinder cross border movement of data	Data Flow	10
	liberal platform adds liability for platforms	Data Flow	10
	Proposed DST	Tax	10
	Sum		50
Chile	Resolution 16677/2017 and protocol PE-8/8 new certification requirements for power adapters	Onerous Regulation	20
	Circular no 2 data localization	Security Barrier	20
	Sum		40

Country	Measure	Classification	Score
China	Uncertainty over foreign made commercial encryption requirements in October 2019 Encryption Law	Security Barrier	20
	Cyber security law creates uncertainty on certain provisions such as when servers can be accessed by enforcement authorities	Security Barrier	20
	VPN highly restriction and regulated undermining security, privacy, and barriers to entry	Security Barrier	20
	Content moderation through blocking of websites	Content Moderation	20
	Ministry of Industry and Information Technology regulation rule adds onerous requirements for pre-imposed software	Security Barrier	20
	Ministry of Industry and Information Technology regulation rule requires social organizations to make blacklists-content moderation	Content Moderation	20
	Administrative provisions on Information Services of Mobile Internet Application Programs from Cyberspace Administration of China require content moderation, monitoring, and reporting of users	Content Moderation	20
	Other various Data localization requirements with large fines	Security Barrier	20
	Draft measures for CII Critical Information Infrastructure regulations adds more data localization and would require consent for cross-border data transfers from customers adding barriers for normal operations	Data Flow	10
	DSL draft of Data Security Law add content moderation outside of China. Released for comments in 2020 would add liability if entities engage in "data activities that harm the national security, the public interest, or the lawful interests of citizens or organizations"	Content Moderation	10
	DSL draft of Data Security Law also established data security review and licensing system for data processors	Security Barrier	10
	Blocks Google, Twitter, Facebook, etc....	Content Moderation	20
	Tariffs from trade war with U.S. on ICT products	Tax	20
	Content moderation: unreliable entities list	Content Moderation	20
	PBOC notification 7 limits e-payments	Onerous Regulation	20
	Telecom services catalog considers cloud services as Value Added Telecom Service limiting market access, development, and WTO commitments	Data Flow	20
	MIIT 2 would prohibit foreign cloud services	Data Flow	10
	MIIT 2 draft notices Regulating Business Operation in Cloud Services Market (2016) and cleaning up and Regulating the Internet Access Service Market (2017) would require foreign CSPs to turn over ownership and operations to a Chinese company.	Content Localization	60

Country	Measure	Classification	Score
China (cont.)	Voluntary Standards Development Organizations SDOs used as de facto and mandatory standards by govt agencies and development of standards not open to foreigners or requirements are very restrictive	Onerous Regulation	20
	2 proposed drafts from MIIT Regulating Business Operation in Cloud Services Market (2016) and Regulating the Internet Access Service Market (2017) would require foreign CSP turn over essentially all ownership and operations to a Chinese company, forcing the transfer of incredibly valuable U.S. intellectual property and know-how to China.	Content Localization	20
	Sum		400
Colombia	Circular Unica requires specific labelling on mobile phones	Onerous Regulation	20
	National AI strategy divergent from global norm by requiring certification, content localization, and support for domestic startups	Content Localization	10
	Hasn't fully implemented US-FTA copyright chapter	Onerous Regulation	20
	Low de minimis	Tax	20
	Bill "Por el cual se modifica la Ley General de Turismo y se dictan otras disposiciones" adds liability for platforms	Data Flow	10
	Article 20 of "Por el cual se modifica la Ley General de Turismo y se dictan otras disposiciones" says Airbnb needs permits	Gig Economy	10
	Limit on gig drivers	Gig Economy	20
	Sum		110
Costa Rica	Tax on digital rentals in sharing economy	Gig Economy	20
	Sum		20
Ecuador	GDPR type privacy bill	Data Flow	10
	Sum		10
Egypt	Data protection Law GDPR+ very restrictive regardless of company size	Data Flow	20
	Data Protection Law requires data localization	Security Barrier	10
	Cybercrime law permits internet moderation	Content Moderation	20
	SMRC decree 26 internet media censorship	Content Moderation	20
	Approvals needed for ride sharing	Gig Economy	20
	Proposed Amendments to the Value Added Tax Law No. 67 for 2016 add tax on digital ads through stamp tax on top of VAT	Tax	10
	Proposed Amendments to the Value Added Tax Law No. 67 for 2016 do not distinguish between digital and non-digital services, obscure rules on how VAT will be applied to foreign companies	Tax	10
	Sum		110

Country	Measure	Classification	Score
EU Austria	Net-DG style intermediate liability	Data Flow	10
	DST	Tax	20
	Sum		30
EU Belgium	Ride hailing barriers	Gig Economy	20
	DST	Tax	10
	Sum		30
EU Czech Republic	DST	Tax	10
	Sum		10
EU Denmark	Various restrictions on ride hailing	Gig Economy	60
	Sum		60
EU Finland	Data backup proposal by Ministry of Finance for financial sector could be backdoor for data localization and a market barrier for CSPs that don't have local data centers	Security Barrier	10
	Sum		10
EU France	DST	Tax	20
	Local infrastructure cloud data processing	Security Barrier	10
	France's ministerial regulation on "public archives" requires any institution that produces public documents to store and process these data only on French soil	Onerous Regulation	20
	France's "image indexation" law, an "automated image referencing service" must negotiate with a French rights collection society and secure a license for the right to index or "reference" a French image.	Onerous Regulation	20
	Limits liability hate speech illegal content NetzDG Law	Content Moderation	10
	SecNum Cloud security certification qualification seems de facto prevents American companies from joining	Content Localization	10
	Restrictions on ride hailing	Gig Economy	60
	GAIA-X "sovereign cloud program"	Content Localization	10
	Sum		160
EU Germany	Local infrastructure cloud data processing	Content Localization	10
	Copyright liabilities Leistungsschutzrecht says search engine results are "press products" but exceptions for small search engines	Tax	20
	Competition rules targeting online platforms	Onerous Regulation	10
	NetzDG law adds liability on platforms	Data Flow	20
	Foreign film levy despite EU Audiovisual Media Services Directive	Content Localization	20
	GAIA-X to compete with foreign cloud service providers	Content Localization	10
	Sharing economy barriers	Gig Economy	60
	Sum		150

Country	Measure	Classification	Score
EU Greece	Ride sharing barriers	Gig Economy	20
	Sum		20
EU Hungary	Digital ad tax	Tax	20
	Sum		20
EU Italy	Restrictive ride hailing	Gig Economy	20
	DST	Tax	20
	Digital tax on ad revenue, platforms, transmission of data	Tax	20
	Sum		60
EU Latvia	DST	Tax	10
	Sum		10
EU Poland	Restriction on 3rd party cloud providers for financial services	Security Barrier	20
	DST on revenue from media and commercial communication	Tax	20
	Sum		40
EU Portugal	Ride hailing restrictions	Gig Economy	60
	Sum		60
EU Slovakia	Tax on digital sharing economy transactions	Gig Economy	20
	Sum		20
EU Spain	IP law in 2014 requires "equitable compensation" for the provision of "fragments of aggregated content" by "electronic content aggregation service providers." And Publishers to be paid by aggregator (can't waive).	Tax	20
	Various ride hailing barriers	Gig Economy	60
	DST	Tax	10
	Sum		90
EU Sweden	Ban on websites showing public art	Content Moderation	20
	Ambiguity over U.S. CLOUD act and Swedish law on CSPs	Data Flow	10
	Ride hailing barriers	Gig Economy	60
	Sum		90
European Union	EU cybersecurity competence center as proposed would discriminate against foreign firms when rewarding grants for research	Content Localization	10
	Copyright Directive Article 17 requires filtering obligations on web searches and intrusive multi-stakeholder process to design content recognition technology restrict foreign firms	Content Moderation	20
	Draft terrorist regulations require 1 hour turnaround time for removing terrorist content and authorizes members states to impose other technical requirements	Content Moderation	10

Country	Measure	Classification	Score
European Union <i>(cont.)</i>	Repeal of U.S. privacy shield through Schrems II decision creates uncertainty on the free flow of data	Data Flow	20
	GDPR is extraterritorial and adds unsurmountable hurdles via added compliance costs for small firms	Data Flow	20
	Proposed AI data regulations suggest licenses for machine learning, data mining, robotics researchers	Data Flow	10
	Liability for hyperlinks in GS Media v. Sanoma Media the CJEU decided linking to infringed material can be a copyright infringement	Data Flow	20
	E-Commerce Directives secure intermediate liability protections for 3rd party content but various member state courts have carved out exceptions for when platforms index or organize content	Data Flow	20
	Draft joint declaration cloud services include protectionist barriers that exclude foreign firms from participating in EU Cloud Federation and discourages EU data processing outside EU	Data Flow	10
	Sharing economy barriers	Gig Economy	10
	Copyright directive Article 15 (neighboring rights for publishers) intrusive and broad	Onerous Regulation	20
	E-privacy regulation in Digital Single Market strategy is extraterritorial adding regulations to non-EU firms that process electronic communication	Security Barrier	10
	Platform to business transparency regs (included in Digital Service Act) would require intermediary platforms to meet aggressive transparency mechanisms- including algorithm ranking systems	Security Barrier	10
	Restrictions on financial sector using cloud services: proposed bill adds oversight system designed to preserve the EU's financial system stability	Security Barrier	10
	European Data Strategy would require data sharing with govt	Security Barrier	10
	GAIA-X to establish restrictive codes of conduct for cloud services	Security Barrier	10
	DST	Tax	10
Sum		230	
Hong Kong	Safe harbor regime behind	Data Flow	10
	Data localization financial services	Security Barrier	20
	Content moderation	Content Moderation	10
	Various Ride hailing	Gig Economy	60
	Sum		100

Country	Measure	Classification	Score
India	National Data Sharing and Accessibility Policy requires data localization for data collected using public funds	Security Barrier	20
	M2M Telecom to Machine Roadmap requires servers and data in program to be stored in India gateway	Security Barrier	10
	Draft policy requires 80% of SIM cards in use to be created locally and prohibits foreign SIM cards	Content Localization	10
	2018 Draft Cloud Computing Policy would require data generated in India to be stored in India	Security Barrier	10
	MoHFW recommended data localization online pharmacy	Security Barrier	10
	Data localization Reserve Bank of India RBI/2017-18/153 data localization for payment transactions. Directive issued April 6 2018	Security Barrier	20
	October 18, 2019, Reserve Bank of India under the 2007 Payment and Settlement Systems Act (2007) issued requirement that foreign payment systems provider data be stored in India for all payments to and from Indians	Security Barrier	20
	Personal Data Protection Bill PDP requires data localization for businesses to store "sensitive personal data"	Security Barrier	10
	No FDI in inventory e-commerce model	Onerous Regulation	20
	Draft New Economic Policy only allows foreign FDI up to 49% if founder and management is Indian	Content Localization	10
	Internet content moderation during times of unrest	Content Moderation	20
	No safe harbor for intermediary liability. 2011 Information Technology Rules have provided an insufficient shield for online intermediaries from liability for third-party user content:	Data Flow	20
	Safe harbor draft ("Information Technology (Intermediary Guidelines) Rules 2018") require platforms to become proactive arbiters of "unlawful" content	Content Moderation	10
	Draft rules on safe harbor also include traceability, local incorporation requiring intermediaries to establish a physical office in India, proactive filtering, and compressed timelines for content removal	Content Moderation	10
	Liability for spread of misinformation: December 24, 2018, the IT ministry released draft changes to the Information Technology Act to impose more strict penalties for companies that fail to prohibit the spread of misinformation online. Platform "intermediaries" must trace the origins of information.	Content Moderation	10
	Content moderation: supreme court ordered gov to police social media misuse	Content Moderation	20
	Indian Draft National E-Commerce Policy released 2.23.2019 includes requirement for firms to monitoring items listed for sale and requires companies to remove prohibited items from sale no later than 24 hours after the item is flagged, block the seller, and notify relevant authorities. The draft also discusses content liability, stating that "it is important to emphasize on responsibility and liability of these platforms an	Content Moderation	10

Country	Measure	Classification	Score
India (cont.)	Cloud Computing Empanelment Guidelines (Meity) requires data localization in Article 2.1d for CSP in gov procurement	Security Barrier	20
	Digital ad tax	Tax	20
	CRO Compulsory Registration Order requires companies to retest imports of electronics even though they already meet international standards	Onerous Regulation	20
	MEITY proposal on non-personal data NPD Governance Framework would require sharing data with government and companies that are determined "community data"	Security Barrier	10
	Regulatory challenges to operate and manage data centers	Onerous Regulation	20
	TRAI Telecom Regulatory Authority of India proposal for CSP to create non-profit board for regulating industry	Onerous Regulation	10
	August 2018 Finance Ministry circular gets key ministries to adopt National Payment Council of if India standards for bank cards- effectively pushing out foreign network issued cards from government disbursement programs	Content Localization	10
	January 2020 Reserve Bank of India mandate that in October all cards would be switched off for e-commerce, contactless, and international usage	Onerous Regulation	20
	April 2020 Equalization levy modified to add 2% tax on goods and services purchased through foreign e-commerce. In Finance Act	Tax	20
	2017 Telecommunications Engineering Centre rule to test telecom equipment regardless of redundancy and failure to notify WTO TBT	Onerous Regulation	10
	India raises tariffs on ICT items that are bound to 0 at WTO	Tax	20
	Rule 12 (2) of Final Draft of Chemicals Management and Safety Rules would require burdensome safety requirements	Onerous Regulation	20
	Rules on importing used ICT equipment are too onerous	Onerous Regulation	20
	Sum		470
Indonesia	Regulation No. 71 of 2019 allows storing content overseas but difficult registration process. Also requires data to be accessed by government for surveillance	Security Barrier	20
	Regulation No. 71 of 2019 requires Right to be Forgotten which is onerous to implement	Data Flow	20
	Proposal by Indonesian Broadcasting Commission would require OTT internet service providers to be subject to censorship and classification	Content Moderation	10
	Minister of Communications and Information of the Republic of Indonesia, Number __ of 2016, concerning Provision of Application Services and/or Content over the Internet (OTT) requires physical presence	Content Localization	10
	Minister of Communications and Information of the Republic of Indonesia, Number __ of 2016, requires partnerships between internet service providers and telecom providers	Content Localization	10

Country	Measure	Classification	Score
Indonesia (cont.)	Minister of Communications and Information of the Republic of Indonesia, Number __ of 2016, concerning Provision of Application Services and/or Content over the Internet (OTT) requires data localization and storage for processing payments for internet services from Indonesian IP	Content Localization	10
	Regulation 17/PMK.010/2018 adds intangible goods, software and other digital goods to chapter 99 of tariff schedule	Tax	20
	The Indonesian Government issued Government Regulation No. 80 of 2019 on Trading Through Electronic Systems part of Presidential Regulation n0.74 of 2017 on the National E-Commerce Road Map 2017-2019 does not clarify that cloud service operators are exempt from liability	Data Flow	10
	Regulation No. 80 of 2019 on Trading Through Electronic Systems part of Presidential Regulation n0.74 of 2017 on the National E-Commerce Road Map 2017-2019 stipulates that personal data cannot be transferred offshore, unless the receiving nation is deemed by the Ministry of Trade as having the same level of personal data standards and protection as Indonesia.	Security Barrier	10
	FDI in e-commerce very restricted	Content Localization	20
	Cyber security law	Security Barrier	10
	Cyber security regulation	Security Barrier	10
	Electronic transaction tax violates WTO moratorium and applies to sales of goods and services over the internet by foreign companies to Indonesia consumers.	Tax	20
	BI 17/52/2015 cross-border electronic payment processing restrictions	Data Flow	20
	BI 18/40/2016 licensing requirements for e-wallets and payment gateways. Domestic transactions to be processed locally, payment system providers limit foreign equity ownership to 20%	Content Localization	20
	BI 19/8/2017 to get new license to process domestic transactions- need to onshore processing and get an NPG license which requires using specific standards	Security Barrier	20
	POJK no.28 cross-border electronic payment processing restrictions	Data Flow	20
	National Payment Gateway Regulation caps foreign ownership at 20%	Content Localization	20
	PADG 19/10/2017 onerous criteria for commercial partnerships "if a foreign payments company enters into a commercial partnership with maximum 2 out of 4 local NPG players and has on shore processing capabilities, it would be allowed to process its own branded domestic transactions on behalf of its NPG switching partners."	Content Localization	20
PBI 20/06/2018 e-money "like bitcoin "must have 51% local Indonesian ownership, max 20% foreign equity, a n on-soil processing	Content Localization	20	

Country	Measure	Classification	Score
Indonesia (cont.)	19/08/PBI/2017 "bitcoin" payment system operator must use NPG and not control front-end and back-end	Security Barrier	20
	21/18/PADG/2019 QR code payment rules sideline foreign principal role, burdensome approval process, and	Onerous Regulation	20
	Personal Data Protection bill modeled after GDPR limits cross-border data transfer to countries determined to have the same standard of data protection as Indonesia, even though there are no guidelines on assessing the data protection level across countries.	Data Flow	10
	KOMINFO No.9 of 2019 and No. 10 of 2019 require local content for electronic and telematic products	Content Localization	20
	Tax on revenue related to the digital PA	Tax	20
	Tax on e-commerce sales when digital PE cannot be applied due to provisions in tax treaty	Tax	20
	Sum		430
Japan	Extraterritorial TBA requirements	Data Flow	20
	Various ride hailing restrictions	Gig Economy	60
	Stringent transparency for online P2B intermediaries	Data Flow	20
	Sum		100
Jordan	Ride hailing restrictions	Gig Economy	60
	Sum		60
Kenya	Burdensome GDPR	Data Flow	20
	ICT policy limits FDI ownership in ICT	Content Localization	20
	Opaque intermediate liability	Data Flow	20
	Data protection law requires data localization	Security Barrier	20
	Digital ad tax	Tax	20
	DST	Tax	20
	VAT digital marketplace services	Tax	10
	Takedown for copyright infringement too short	Onerous Regulation	10
	Sum		140
Malaysia	Tax on e-commerce income	Tax	20
	Opaque certification requirements for IPv6	Onerous Regulation	20
	Sum		40
Mexico	Cybersecurity law requires ISP to discover crimes	Content Moderation	20
	Draft provisions on Applicable to Electronic Payment Fund Institutions (IFPE) Article 49 would establish an authorization model with a high degree of discretion and lack of transparency for the use of cloud computing services.	Data Flow	10

Country	Measure	Classification	Score
Mexico <i>(cont.)</i>	Draft provisions on Applicable to Electronic Payment Fund Institutions (IFPE) Article 50 would impose the obligation of data residency and multi-scheme providers to E-Payment Institutions (IFPEs) that use cloud computing services	Security Barrier	10
	Various ride hailing restriction	Gig Economy	60
	30% local content OTT	Content Localization	10
	Neutrality: Telco Regulator could issue pending regulations in early 2021. These regulations could shift Internet consumption	Data Flow	10
	Telco Regulator draft proposal includes language that could order ISP to block traffic which violates USMCA	Onerous Regulation	10
	DST on wait for OECD	Tax	10
	Force ISPs to use kill switch for non-resident entities that don't comply with VAT of non-resident supplies of digital services to Mexican consumers	Tax	10
	Various conflicting and duplicative laws on energy efficiency of products	Onerous Regulation	20
	Sum		170
Morocco	Throttling services in civic unrest	Content Moderation	20
	Sum		20
New Zealand	Static copyright list means new forms such as data mining machine learning don't get copyright protection	Onerous Regulation	20
	Temporary storage safe harbor provision in Section 29E of the Copyright Act is ambiguous and limits technological flexibility	Security Barrier	20
	DST	Tax	10
	Sum		50
Nigeria	Uncertainty in Data Protection bill on data transfers Nigerian Identification Management Commission's new Data Protection Bill does not clearly establish the legal mechanisms for cross-border data transfers	Data Flow	10
	National Broadcasting Code prevents Pay TV and other broadcasting/ streaming platforms from making their content exclusive and directs them to sub-license content at prices the Commission will regulate.	Onerous Regulation	20
	Data Protection bill includes localization-- seeks to regulate the collection, storage and use of personal data of data subjects in Nigeria	Data Flow	10
	GDPR like Data protection bill and requires DPO to be an actual office and not an individual	Content Localization	10
	Significant Economic Presence in 2019 Finance Act applies to non-resident companies only and applies to gross revenue of digital activity in Nigeria	Tax	20
	Tax on revenue related to digital PE	Tax	20
	Sum		90

Country	Measure	Classification	Score
Oman	Throttling services in civic unrest	Content Moderation	20
	Sum		20
Pakistan	October 2019, Pakistan's cabinet approved an E-commerce Policy Framework e-payments restricted to only locally registered companies	Content Localization	20
	Finance bill 2018 includes DST	Tax	20
	Citizen Protection Against Online Harm Rules from Ministry of Information Technology and Telecommunication (MOITT) includes forced local office presence	Content Localization	20
	Citizen Protection Against Online Harm Rules from Ministry of Information Technology and Telecommunication (MOITT) includes forced storing of user data within Pakistan	Security Barrier	20
	Citizen Protection Against Online Harm Rules from Ministry of Information Technology and Telecommunication (MOITT) includes new procedures that would contravene both Pakistani and international laws and norms around disclosure of user data and intermediary moderation of online content.	Security Barrier	20
	Draft data protection bill requires mirroring personal data	Data Flow	10
	Tax on payments for offshore digital services	Tax	20
	Sum		130
Panama	Burdensome consent on cross-border data flows: March 2019, Panama enacted Law No. 81 on Protection of Personal Data. This law does not recognize appropriate types of consent as a basis for transferring data outside the country	Data Flow	20
	Conflicting definitions of "critical safe data" in Article 2 and Article 3 in Data Protection Bill could create de facto data localization	Data Flow	20
	Various ride hailing restrictions	Gig Economy	20
	Sum		60
Paraguay	Tax on digital service from foreign suppliers	Tax	20
	Sum		20
Peru	Opaque copyright exemption in Legislative Decree No. 822 of April 23, 1996, Title IV Chapter 1	Onerous Regulation	20
	No safe harbor for ISPs: out of compliance with key provisions under the U.S.-Peru Trade Promotion Agreement that require copyright safe harbors for internet service providers	Data Flow	20
	May 2020, the Digital Government Secretariat of Peru released for consultation a draft of Emergency Decree 007 -doesn't differentiate between different types of digital services, or adopt international recognized standards Guidelines for the Use of Cloud Services for entities of the Public Administration and endorse the use of international standards and best practices such as ISO 9001, ISO 27001, ISO 27002, ISO 27017, ISO 27018 and SOC 1, 2 and 3.	Data Flow	10

Country	Measure	Classification	Score
Peru (cont.)	Whitelist for data transfers in emergency decree 007 gives preferential treatment to domestic data storage	Content Localization	10
	National data center in 007 to host the information provided by the public sector entities is data localizations	Content Localization	10
	Digital security badge requirements in decree 007 ignore the existence of global security standards	Data Flow	10
	Under decree 007 Data Protection Authority would determine model contract clauses that are more onerous than required	Onerous Regulation	10
	Onerous GDPR like framework in Political Constitution of Peru sets forth certain fundamental rights that every person has, including a right to privacy regarding information that affects personal and family privacy, which was the basis for the creation of a law that specifically protects the use of personal data of any natural person and applies to both private and state entities.	Data Flow	20
	Sum		110
Philippines	Content regulation in internet transactions bill (House Bill 6122 and Senate Bill 1591) shifts the burden of policing online merchants to platform providers, and requires substantial changes in the business model, product design, and function of platforms to enable compliance with the requirements of the bills	Content Moderation	10
	Bill would add VAT at a rate of 12% on sales by digital service providers	Tax	10
	No intermediate liability in transactions bill	Data Flow	10
	Mandates permanent establishment in transactions bill	Content Localization	10
	Sum		40
Qatar	Cloud data localization: in Section 3.6.3of Modern Technology and E banking Services Risk circular states "banks must ensure that "core sensitive information is not placed on a non-controlled cloud computing environment" when core sensitive information is understood to include customer records and account information.	Security Barrier	10
	Sum		10
Russia	Blacklist law keeps Wikipedia and other sites blocked	Content Moderation	20
	VAT on E-services	Tax	20
	Data localization: Articles 10.1 and 10.2 of Federal Law No. 149-FZ: requirement to retain metadata for provision to Russian security agencies, and content-posting restrictions for websites.	Security Barrier	20
	Local content requirement Federal Law 149-FZ news search and aggregation services that exceed 1 million daily visitors and are offered in the Russian language with the possibility of showing ads must be offered through a local subsidiary in Russia. Foreign providers are not permitted to offer such services directly across the border,	Content Localization	20

Country	Measure	Classification	Score
Russia (cont.)	2014 Law 242-FZ data localization requirement to store and process personal data concerning Russian citizens in Russian data centers	Content Localization	20
	2016 law data localization	Content Localization	20
	2017 law data encryption penalty- is this laws 274-FZ and 375-FZ	Security Barrier	20
	Content moderation in No.30-FZ and No 31-FZ prohibit spreading misinformation online and prohibits on-line insults of government officials.	Content Moderation	20
	Internet Sovereignty bill routes internet traffic through state DNS	Security Barrier	20
	No 425-FZ law requiring pre-installation of Russian software	Security Barrier	20
	Laws 274-FZ and 375-FZ Yarova amendments require organizers of information distribution on the internet to store communication content in Russia for 6 months	Security Barrier	20
	Laws 274-FZ and 375-FZ Yarova amendments requires internet services to provide government officials with sensitive user information and to assist national security agencies in decrypting any encrypted user messages.	Security Barrier	20
	Sum		240
Saudi Arabia	Compliance with IECEE, SASO, CTC to import devices All these measures constitute restrictions imposed to importers further complicating the ability to grow and thrive in the Saudi market.	Onerous Regulation	20
	Data localization in Communication and Information Technology Council consultation document	Security Barrier	10
	Various measures in Communication and Information Technology Council consultation document also proposes burdensome new data protection and classification obligations that require compliance with cybersecurity and law enforcement access provisions that are significantly out of step with global norms and security standards.	Onerous Regulation	30
	Data localization in National Cybersecurity Authority (NCA) 2018 Essential Cybersecurity Controls (ECC) framework states that data hosting and storage when using cloud computing services must be inside KSA.	Security Barrier	20
	Communications and Information Technology Council has issued a Cloud Computing Framework, which restricts access to the Saudi market for foreign cloud services. This regulation, which went into effect on March 8, 2018, requires that any cloud computing service provided to customers having a residence or address in Saudi Arabia:	Content Localization	20
	Throttling services in civic unrest	Content Moderation	20
	Sum		120
Senegal	Studying regulating online services	Onerous Regulation	10
	Sum		10

Country	Measure	Classification	Score
Singapore	Protection from Online Falsehoods and Manipulation bill no. 10/2019 requires content moderation	Content Moderation	20
	Protection from Online Falsehoods and Manipulation bill no. 10/2019 requires intermediaries to publish corrections	Content Moderation	20
	Sum		40
South Africa	Proposes to break WTO moratorium	Tax	10
	Sharing economy barriers	Gig Economy	60
	SARB Draft Directive banks can only use on-soil infrastructure	Content Localization	10
	Sum		80
South Korea	Data localization/ physical separation: due to onerous certification requirements imposed by the Korea Internet Security Agency (KISA) under the Cloud Security Assurance Program (CSAP) concerning CSPs that include physical separation and encouraging voluntary standards foreign firms can't meet.	Security Barrier	10
	TBA local presence: The amendments to the TBA impose scope of service quality maintenance requirements on value added telecom service providers (VSPs) that meet certain thresholds which have not been defined yet. The VSPs that fall within the thresholds and do not have a local presence will have to appoint a local representative to receive user complaints and answer regulatory requests for information. Without knowing what the thresholds are, content providers may unfairly face requirements that do not apply to Korean competitors	Content Localization	20
	Pre-installed apps not allowed: Since 2014, South Korea has implemented regulations that force telecommunication devices with smart capabilities to allow users to delete pre-installed applications on a device	Onerous Regulation	20
	CSAP requires govt encryption	Security Barrier	20
	CSAP opaque rules cloud certification requirements	Content Localization	10
	Localization req's for GPS data	Security Barrier	20
	Requirement for online service providers to have local servers	Security Barrier	10
	Congress members have proposed an OTT bill to regulate online video platforms, targeting overseas service providers	Content Localization	10
Network use guidelines on OTT: March 8, 2019, the Korea Communications Commission announced its key plans for 2019 which included drawing up "Network Use Guidelines" which would "require overseas operators designate a domestic representative, pursue introducing a system that would temporarily suspend services in case of violations." Would allow govt to shutdown Google, Facebook if violate privacy	Content Localization	10	

Country	Measure	Classification	Score
South Korea <i>(cont.)</i>	Value-added telecommunications service providers" (VTSP) Netflix law: imposing burdensome and costly requirements that violate Korea-US FTA and WTO commitments, including national treatment, MFN, local presence, domestic regulation, and telecommunications access and use.	Content Localization	20
	October 2020 laws that target U.S. firms to use Korean billing systems in apps	Content Localization	10
	Korean Cloud Security Certificate too onerous for U.S. firms	Content Localization	20
	Sum		180
Taiwan	Various sharing economy barriers	Gig Economy	60
	Ministry of Finance requires foreigners to use 20% local content for digital goods and services: Since 2017, Taiwan's Ministry of Finance has required nonresident suppliers to collect and remit a direct tax on cross-border business-to-consumer supplies of digital goods and services, requiring suppliers to remit 20 percent of the local source component of their "deemed profit." The "deemed profit" can be as much as 30 percent of revenue.	Content Localization	20
	Registration requirements for OTT: The bill proposes broad requirements, including disclosure of subscriber numbers, appointment of a local representative, and membership of a self-regulatory body, that would present barriers to overseas based OTT services, including by requiring the disclosure of commercially sensitive data.	Security Barrier	10
	Payments to foreign providers for only ads or other e-services	Data Flow	20
	Sum		110
Thailand	Cybersecurity Act allows gov't intrusion, May 2019, Thailand enacted its Cybersecurity Act to it gives the National Cybersecurity Committee (NCSC) broad powers to enter into premises, to monitor and test computers and computer systems, and to seize or freeze computers, computer systems, and equipment, without sufficient protections, such as opportunities to appeal or limit such access.	Security Barrier	20
	Opaque Personal Data protection bill	Data Flow	10
	No intermediate liability for defamatory speech	Content Moderation	20
	Content moderation for ISP who "assist or facilitate" the commission of defamation by another person can be liable as supporters of the defamatory offenses, even if the actor does not realize they are assisting or facilitating the offense	Content Moderation	20
	Tax on sharing economy service transactions	Tax	10
	Sum		80
Tunisia	DST	Tax	20
	Sum		20

Country	Measure	Classification	Score
Turkey	GDPR like regulations in Personal Data Protection Act	Data Flow	20
	Data localization for publicly traded companies from Communique on Information Systems Management CII-128.9 from Capital Market Board of Turkey	Security Barrier	20
	No liability for blasphemous, discriminatory, or insulting content	Content Moderation	20
	Article 3 of Circular on Information and Communication Security Measures no. 2019/2 public institutions can't store data on the cloud	Security Barrier	20
	DST since March 1 2019	Tax	20
	License required to use, produce, and collect geographic data	Data Flow	20
	Import duties on electronic devices- game consoles and other consumer goods	Tax	20
	Amendment of the law on the regulation of publications on the internet and suppression crimes committed by means of such publications	Content Moderation	60
	Draft regulation on the Information System of Banks and Electronic Banking Services requires banks to keep primary information systems (production data) in country	Content Localization	10
	Tax on payments for digital ads ad platform fees	Tax	20
Sum		230	
Ukraine	Lack of intermediate liability: USTR included Ukraine on the 2016 Special 301 Report watchlist in part due to "the lack of transparent and predictable provisions on intermediary liability" and the absence of "limitations on [intermediary] liability" in Ukraine's copyright law	Data Flow	20
	Onerous rules in liability law include: unfeasible requirement to remove information within 24 hours of a complaint, a requirement to provide user data to third parties even if an intermediary disputes the presence of infringing content, and a requirement to implement "technical solutions" for repeat postings that likely requires intermediaries to monitor and filter user content.	Content Moderation	20
	Article 11(4) of draft cloud law no. 2655 prohibits processing personal data and public data on the cloud if data processing it outside Ukraine	Content Localization	10
	Sum		50
United Arab Emirates	Local data processing for e-payment: January 1, 2017, the Central Bank of the United Arab Emirates (UAE) issued the Regulatory Framework for Stored Values and Electronic Payment Systems (Regulations). Mandatory licensing and related compliance regimes for certain electronic payment service providers pose an additional barrier for American companies attempting to enter the UAE market	Content Localization	20

Country	Measure	Classification	Score
United Arab Emirates (cont.)	Throttling for telecom services including VoIP and communications services, including WhatsApp VOIP, Apple Facetime, Google, Hangouts and Duo, LINE, and Viber. It violates access for U.S. services and appear to conflict with UAE's GATS commitments.	Content Moderation	20
	National Media Council Creators law- social media influencers need licenses: The law puts the responsibility on the owner of the account to obtain the license for their activities, and covers a broad scope, including "any paid or unpaid form of presentation and/or promotion of ideas, goods, or services by electronic means, or network applications"	Gig Economy	20
	Content restrictions in cybercrime law: AED 1 million if electronic site derides or damages reputation of UAE, any site that prejudice public morals, insulting others, websites that display Islamic materials	Content Moderation	60
	Various ride hailing restrictions	Gig Economy	60
	Sum		180
United Kingdom	White Paper on Online Harms now Online Safety Bill- Duty of Care moderations for illegal content	Content Moderation	10
	White Paper on Online Harms- Duty of Care moderations for harms or content that present a reasonably foreseeable risk of causing significant physical or psychological harm to adults	Content Moderation	10
	DST	Tax	20
	Sum		40
United States	Dept. Commerce expanded export controls restricting semiconductor trade with certain Chinese entities	Content Localization	20
	California Consumer Privacy law: Like the GDPR, the CCPA restricts liability for personal data, adds fines for each security incident	Data Flow	20
	The California Privacy Rights Act, more onerous restrictions on the use, control, and collection of data	Data Flow	20
	Wayfair decision permits states to collect sales taxes when merchant has no physical presence	Tax	20
	Sum		80
Uruguay	Considering bill to regulate digital platforms and services	Data Flow	10
	Tax on digital income to non-residents	Tax	20
	Sum		30
Vietnam	2017 Public Security law mandates discriminatory licensing requirements	Security Barrier	20
	2017 law requires data localization	Security Barrier	20
	The 2019 Cybersecurity law requires certifications for digital service providers and software	Security Barrier	10
	MIC decisions 1145 and 783 regulations on cloud services create a preferential framework for domestic CSPs,	Content Localization	10

Country	Measure	Classification	Score
Vietnam (cont.)	No adequate and effective ISP safe harbors	Data Flow	20
	Decree 6 would require VOD to get licenses and maintain local content quota	Security Barrier	20
	3 hour window of to comply with content takedown requests, as well as numerous other market access barriers. Decree from Ministry of Information and Communication decree on Internet Services and Online Communication	Content Moderation	10
	Local servers and long data retention period required in Ministry of Information and Communication decree on Internet Services and Online Communication	Security Barrier	10
	Draft regulation October 2014 from Ministry of Information and Communication requires foreign ISP to reach commercial agreement with Vietnam licensed telecom company and store data locally	Security Barrier	10
	Draft decree to amend 181/2013 would require management of digital ads	Content Moderation	10
	Decision 749/QD-TTG and MIC Decisions 1145 and 783 create rules that favor local cloud service providers	Content Localization	20
	Tax on e-commerce and digital services	Tax	20
	Decree 72/2013/ND-CP on Information Technology Services requires data localization for internet and digital services	Security Barrier	20
	Draft amendment to 72/2013/ND-CP requires longer data retention	Security Barrier	10
	Draft updates to 2018 Law on Cybersecurity (LOCS) would prohibit hyper-scale CSP to sell to Vietnamese customers	Content Localization	10
	MIC law on Network Information Security (LONIS) requires source code and encryption	Security Barrier	20
	Short transition times permitted by MIC for import measures and not using TBT inquiry Point	Onerous Regulation	10
	July draft changes to National Payment Corporation of Vietnam require NAPAS to obtain written permission from SBV to connect to foreign electronic payment companies	Data Flow	10
	Sum		260
Zimbabwe	Proposed restrictive OTT regulations: suggest licensing framework with emergency services and data intercept under discussion.	Security Barrier	10
	E-commerce tax	Tax	20
	Sum		30

Appendix V Imputed Scores

Country	Missing Value	Distance to Group	Nearest Group Score Imputed	Imputed Score
Algeria	Digital	1.312910324	Income	2.971571906
Bolivia	Digital	0.962359315	Income	2.971571906
Botswana	Digital	1.014520277	Region	2.173913043
Cameroon	Digital	0.901816633	Region	2.173913043
Côte d'Ivoire	Digital	1.37857712	Region	2.173913043
Egypt	NTM	1.226844549	Income	1.557464143
Ghana	Digital	0.656519696	Region	2.173913043
Guatemala	Digital	0.817226961	Region	2.40513834
Honduras	Digital	0.726115256	Region	2.40513834
Hong Kong	Services	1.768499264	Region	5.061089308
Kazakhstan	Digital	0.536021852	Region	4.195652174
Kenya	NTM	0.596601725	Region	1.258184439
Kuwait	Digital	0.827192074	Region	2.065217391
Lebanon	Digital	0.973295626	Region	2.065217391
Mali	Digital	4.642969111	Region	2.173913043
Mauritius	Digital	1.554705932	Region	2.173913043
Nepal	Digital	0.66424149	Region	5.173913043
Singapore	Services	1.73305485	Income	3.810178965
Slovenia	Digital	0.202040641	Region	5.772515528
South Africa	NTM	1.149105723	Region	2.060786922
Sri Lanka	Digital	1.008073412	Income	2.971571906
Sweden	NTM	0.625390176	Region	1.202326095
Switzerland	Services	0.510983088	Region	3.678177281
Trinidad and Tobago	Digital	1.307384905	Region	2.40513834
Ukraine	NTM	0.908545802	Region	1.715445542
United Arab Emirates	Services	1.092374999	Income	3.810178965
United Kingdom	NTM	0.730614197	Income	1.54216735



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