



International Centre for Trade
and Sustainable Development



COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

Maximizing the Opportunities of the Internet for International Trade

Policy Options Paper



Acknowledgements

With the support of



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO



And ICTSD's Core and Thematic Donors:



Government of the Netherlands



Published by

International Centre for Trade and Sustainable Development (ICTSD)

7 Chemin de Balexert, 1219 Geneva, Switzerland

Tel: +41 22 917 8492 – E-mail: ictsd@ictsd.ch – Website: www.ictsd.org

Publisher and Chief Executive: Ricardo Meléndez-Ortiz

World Economic Forum

91-93 route de la Capite, 1223 Cologny/Geneva, Switzerland

Tel: +41 22 869 1212 – E-mail: contact@weforum.org –

Website: www.weforum.org

Co-Publisher and Managing Director: Richard Samans

Citation: Meltzer, Joshua P. 2016. *Maximizing the Opportunities of the Internet for International Trade*. E15 Expert Group on the Digital Economy – Policy Options Paper. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Maximizing the Opportunities of the Internet for International Trade

Joshua P. Meltzer

on behalf of the E15 Expert Group on the Digital Economy

January 2016

* The author would like to extend a particular thanks to Merit Janow who was the Theme Leader for the Expert Group on the Digital Economy and who provided leadership throughout the process as well as invaluable comments and insights on the paper. Thanks also to all participants in the Expert Group for their engagement and comments on the paper.

Note

The policy options paper is the result of a collective process involving all members of the E15 Expert Group on the Digital Economy. It draws on the active engagement of these eminent experts in discussions over multiple meetings as well as an overview paper and think pieces commissioned by the E15Initiative and authored by group members. Joshua P. Meltzer was the author of the report. While a serious attempt has been made on the part of the author to take the perspectives of all group members into account, the policy recommendations should not be considered to represent full consensus and remain the responsibility of the author. The list of group members and E15 papers are referenced.

The full volume of policy options papers covering all topics examined by the E15Initiative, jointly published by ICTSD and the World Economic Forum, is complemented with a monograph that consolidates the options into overarching recommendations for the international trade and investment system for the next decade.

The E15Initiative is managed by Marie Chamay, E15 Senior Manager at ICTSD, in collaboration with Sean Doherty, Head, International Trade & Investment at the World Economic Forum. The E15 Editor is Fabrice Lehmann.

E15Initiative

Jointly implemented by the International Centre for Trade and Sustainable Development (ICTSD) and the World Economic Forum, the E15Initiative was established to convene world-class experts and institutions to generate a credible and comprehensive set of policy options for the evolution of the global trade and investment system to 2025. In collaboration with 16 knowledge partners, the E15Initiative brought together more than 375 leading international experts in over 80 interactive dialogues grouped into 18 themes between 2012-2015. Over 130 overview papers and think pieces were commissioned and published in the process. In a fast-changing international environment in which the ability of the global trade and investment system to respond to new dynamics and emerging challenges is being tested, the E15Initiative was designed to stimulate a fresh and strategic look at the opportunities to improve the system's effectiveness and advance sustainable development. The second phase of the E15Initiative in 2016-17 will see direct engagement with policy-makers and other stakeholders to consider the implementation of E15 policy recommendations.

E15Initiative Themes

- Agriculture and Food Security
- Clean Energy Technologies
- Climate Change
- Competition Policy
- Digital Economy
- Extractive Industries*
- Finance and Development
- Fisheries and Oceans
- Functioning of the WTO
- Global Trade and Investment Architecture*
- Global Value Chains
- Industrial Policy
- Innovation
- Investment Policy
- Regional Trade Agreements
- Regulatory Coherence
- Services
- Subsidies

* Policy options to be released in late 2016

For more information on the E15Initiative:
www.e15initiative.org

Abstract

The last decade has witnessed remarkable developments in the digital economy, creating new opportunities for cross-border trade and investment and the ongoing emergence of novel and disruptive businesses models. At the same time, the Internet is transforming how goods and services are produced, delivered, and consumed both domestically and internationally. The transformation in the character of cross-border trade in goods and services, which are increasingly embedded, is also resulting from global value chains, made possible by the flow of immense amounts of data across borders. This has given rise to a growing overlap between the trade regime and other areas of domestic regulatory intervention—notably with respect to privacy and security. The present paper examines the challenges and opportunities that growth of the digital economy creates for trade and development. It seeks to identify supportive trade policy measures to enhance the benefits of digitization globally as well as avenues to establish regulatory practices that permit cross-border data flows and improved regulatory

cooperation among countries. Following a discussion of the impact of the Internet on the nature of international trade and an overview of important regulatory and other barriers, the paper outlines recommendations on how policy-makers and interested stakeholders can address existing constraints and help create an enabling environment to realize the opportunities of the Internet and cross-border data flows for growing digital trade. The policy options are grouped under four categories: maximizing and updating WTO rules; negotiating a digital trade agreement; expanding and deepening regulatory cooperation on key related policy issues; and enhancing collaborative efforts between governments, the private sector, and civil society. The objective of this broad range of options is to gradually develop a comprehensive set of international trade rules and norms to ensure that the opportunities of the Internet for inclusive growth and development are exploited.

Contents

6	Executive Summary
8	1. What is Digital Trade?
9	2. Enabling Digital Trade and Data Flows
9	2.1 Internet Expansion and its Impact on International Trade
10	2.2 The Trade Implications of a Global Internet
12	2.3 How the Internet is Changing Trade
14	2.4 Increase Internet Access
1	2.5 An Enabling Environment for Digital Trade
18	3. Policy Options to Maximize Trade in the Digital Economy
18	3.1 Maximize and Update WTO Rules Both in the Near and Long Term
21	3.2 Negotiate a Digital Trade Agreement
22	3.3 Expand and Deepen Regulatory Cooperation on Digital Trade Issues
23	3.4 Governments, Businesses, and NGOs Working Together to Support Digital Trade
25	4. Concluding Note
26	References and E15 Papers
29	Annex 1: Summary Table of Main Policy Options
34	Annex 2: Members of the E15 Expert Group

List of Boxes

10	Box 1: Improving the Global Delivery of Renewable Energy
11	Box 2: Growing Strawberries in India
12	Box 3: As Trucks Become Services
19	Box 4: Existing Digital Trade Rules in US Trade Agreements

Abbreviations	
APEC	Asia-Pacific Economic Cooperation
B2B	business-to-business
ECJ	European Court of Justice
FTA	free trade agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
ICT	information and communications technology
IoT	Internet of Things
IP	intellectual property
ISP	Internet service provider
IT	information technology
ITA	Information Technology Agreement
ITU	International Telecommunication Union
KORUS	Korea-US Free Trade Agreement
MFN	most favoured nation
MLAT	mutual legal assistance treaty
NGO	non-governmental organization
OECD	Organisation for Economic Co-operation and Development
R&D	research and development
RFID	radio frequency identification
SDGs	Sustainable Development Goals
SME	small and medium-sized enterprise
TFA	Trade Facilitation Agreement
TFP	total factor productivity
TPP	Trans-Pacific Partnership
TPRM	Trade Policy Review Mechanism
TTIP	Transatlantic Trade and Investment Partnership
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
USITC	United States International Trade Commission
WHO	World Health Organization
WTO	World Trade Organization

Executive Summary

Growth in Internet access globally, often over mobile phones, is having a profound impact on economies and international trade. Economies are going digital as the Internet and the ability to move data globally have enabled the development of new and innovative businesses. Global supply chains are also made possible by the immense flow of data across private and public networks. The Internet is transforming how goods and services are used and delivered, as businesses offer online services (such as monitoring of equipment or data analysis of product use) in combination with goods, such that the services component is an increasingly significant share of the overall product value. Businesses are using the Internet to reach consumers globally, which is also driving international trade.

Statistics on the economic impact of the Internet and data flows on economic growth and international trade are limited. However, modelling and empirical studies all point towards a strong influence of the Internet on economic growth and trade. For instance, the World Bank has found that a 10% increase in broadband penetration results in a 1.38% rise in economic growth in developing countries and 1.21% in developed countries. The US International Trade Commission has further found that the Internet has boosted US employment by up to 1.8%. The Internet is also creating opportunities for new and disruptive businesses (e.g. Uber and taxis), which are shifting employment patterns in some industries.

Traditional businesses are increasingly where the value and impact of the Internet on economic growth and trade is being realized. By some estimates, 90% of the US\$16.5 trillion e-commerce market globally is between businesses. This includes using the Internet to manage supply chains, access inputs online such as software, utilize cloud technologies, and source professional services. Businesses are also using the Internet to grow R&D and design practices globally, combining greater access to information and data to drive innovation. The Internet of Things is another developing area that is providing increasing amounts of data that businesses are using to improve productivity and competitiveness.

Consumer use of the Internet is also growing globally. Using Internet platforms and other services such as eBay, Alibaba, Etsy, or Google Search, consumers can search for and purchase goods—often from geographically dispersed small and medium-sized enterprises (SMEs). This is opening up new possibilities for SMEs to sell their products online, engage in international trade, and become part of the global economy in ways that were not previously possible. The Internet is also overcoming barriers that previously made it costly for many businesses in developing countries to engage in international trade. For example, the ability to deliver digital products online can help overcome traditional trade costs arising from poor infrastructure, inefficient customs procedures, and distance to large consumer markets.

Against this backdrop, the mandate of the Expert Group on the Digital Economy, convened by ICTSD in partnership with the World Economic Forum as part of the E15 Initiative, was to examine the challenges and opportunities that growth of the digital economy creates for trade and development, and identify constraints and possible improvements in the global trade system to enhance benefits from the digital economy. A set of policy options for improved governance of international trade in a digital world emerged from this expert dialogue process.

An Enabling Environment for Digital Trade

Realizing the opportunities of the Internet and cross-border data flows for economic growth and international trade will require an enabling environment that has three elements to it.

The first is the need for regulations that give businesses and consumers the confidence to use the Internet to engage in cross-border transactions. This includes greater certainty as to the application of consumer protection laws to digital trade, expanding access to dispute settlement mechanisms to settle disputes arising out of digital trade, enabling logistics networks to deal with the particular demands of digital trade (such as trade in low value goods), access to international payment mechanisms, and ensuring that governments and companies have the tools to protect the security of data online.

A second set of commitments are further necessary to ensure that online information can be accessed and data can flow freely across borders, recognizing that this will require security and regulatory oversight to engender confidence that confidential and private information will be protected. Governments should agree not to apply

regulations such as data localization laws that require data to be kept within a particular jurisdiction. Governments should also reconsider policies that limit Internet access to some foreign businesses in order to shield domestic players from competition—a form of digital protectionism.

The third element concerns the need for cooperation to address the regulatory externalities that can arise from digital trade and the incentives this can create for governments to restrict cross-border data flows. For example, the EU prevents the transfer of personal data to third countries that do not have an “adequate” level of privacy protection. Interoperable regulatory frameworks such as the APEC Cross-Border Privacy Rules can be effective in protecting privacy on a cooperative basis with broader international coverage, while ensuring that data can continue to cross borders.

Policy Options

The following are the report’s key policy options, grouped under four categories, which seek to cover as much ground as possible in relation to the challenges identified above. The options include an indicative short to long-term time horizon for possible implementation, depending on their level of ambition, and they all call on governments, the private sector, and civil society to engage proactively in relevant fora.

Maximize and Update WTO Rules

(i) Implement and consider expanding the WTO Trade Facilitation Agreement to support digital trade; (ii) make permanent the moratorium on customs duties on electronic transmissions; (iii) empower the WTO to further conceptualize how the digital economy can be supported in both developing and developed economies and expand the WTO’s information functions on digital trade; (iv) better understand the scope for WTO law to support digital trade by convening a working group to determine the extent that digital trade needs are covered under the existing WTO rules and alternative approaches going forward; (v) conclude and then expand the International Technology Agreement; (vi) update the WTO Telecoms Reference Paper to ensure competition over the Internet as well as traditional networks; and (vii) clarify the application of WTO members’ GATS commitments on digital trade.

Negotiate a Digital Trade Agreement

(i) Negotiate digital trade rules in the Transatlantic Trade and Investment Partnership and the Trade in Services Agreement and develop at the WTO a plurilateral digital trade agreement; (ii) expand services market access commitments that can be delivered online; (iii) commit to allowing the free flow of data across borders subject to an exceptions provision based on GATS Article XIV; (iv) commit to not require data localization; and (v) promote balanced intellectual property systems by including effective enforcement rules as well as limitations and exceptions, and develop as safeguards appropriate protections from intermediary liability.

Expand and Deepen Regulatory Cooperation on Digital Trade Issues

(i) Develop regulatory cooperation in areas affected by digital trade with priority given to online privacy, consumer protection across borders, and rules for online contract formation and enforcement; (ii) improve online financial payment options; and (iii) develop a dispute settlement mechanism for digital trade.

Governments, Business, and NGOs Working Together to Support Digital Trade

(i) Improve data gathering and metrics concerning digital trade; (ii) enhance government / private sector cooperation on digital trade issues, including in areas such as developing a dispute settlement mechanism, improving online security, and further developing principles that can help drive a global consensus on the importance of digital trade; and (iii) expand financing of digital infrastructure in developing countries.

Next Steps

The Internet and global data flows are creating new opportunities for more inclusive growth and employment. Yet, the current set of international trade and investment rules and norms navigate between competing goals and do not adequately support an open Internet or the flow of data across borders. This report provides a broad range of recommendations for immediate and long-term action by governments, businesses, and NGOs to engage in new forms of regulatory cooperation and the sharing of experience and knowledge. The objective is to develop a comprehensive set of international trade rules and norms to ensure that the opportunities of the Internet and global data flows are fully realized.

1. What is Digital Trade?

The last decade has witnessed remarkable developments in the digital economy which are creating new opportunities for cross-border trade and investment and the emergence of new businesses—large and small—often in unexpected sectors or regions, and with new business models. The consequences of access to the Internet, data, mobility, and digitization are also having profound impacts on manufacturing and services delivery, production, and use. The integration of digital elements are giving rise to issues of characterization itself: goods once clearly thought to be “manufactured goods” can now embed or utilize a digital dimension that provides essential value-added to the product and transforms them into one that is both a good and a service, however recognized under international tariff nomenclatures.

The transformation in the character of cross-border trade is also resulting from global value chains of goods and services, which is made possible by the flow of immense amounts of data across borders on both public and private networks. Cross-border data flows are both essential to global value chains and can be a by-product of it. This has, in turn, given rise to the intersection of the trade regime with still more areas of economic and regulatory policy—notably with respect to data privacy and security policies, all of which can now have profound implications for the future of the international trade regime. As many have observed, the Internet is both part of the global commons and part of every nation’s sovereign jurisdiction. Policies that implicate its use (especially around data) can therefore have significant externalities. This recognition is not new—it has been fundamental to economic globalization and the development of the rules of the international trading system overall. Indeed, trade rules have increasingly shifted focus from border measures to internal measures because of the recognition that those internal practices have profound cross-border implications. Today, nowhere is this more important than with respect to digital trade and the regulation of data and information.

For this discussion, a focus on digital trade includes as a fundamental characteristic the use of the Internet to search, purchase, sell, and deliver a good or service across borders. A more expansive lens could also speak to how Internet access and cross-border data flows enable digital trade.

The mandate of the Expert Group on the Digital Economy, convened by ICTSD in partnership with the World Economic Forum as part of the E15 Initiative, was threefold. First, examine the challenges and opportunities that growth of the digital economy creates for trade and development. Second, identify constraints and areas for improvement in the global trade system to enhance benefits from the digital economy. Third, propose specific options for governance of international trade in a digital economy. In order to accomplish its mandate, the Group sought to address key questions. What is the nature and extent of digitization of economies across sectors and jurisdictions? How are consumers and businesses in the developing world accessing and using the Internet and what does this suggest for supportive policy measures? How should the key technical, infrastructural, and policy barriers that have implications for digital trade be addressed? How can we establish regulatory practices that permit cross-border data flows and improved regulatory cooperation among countries?

The first three parts of the background section below discuss the importance of Internet access and cross-border data flows for trade. These subsections provide an overview of growth in Internet access and how it is being used to grow digital trade. The opportunities of the Internet and data flows for small and medium-sized enterprises (SMEs) and developing countries are also discussed. Subsection 2.4 examines how the Internet is changing the nature of international trade, from the growing services share of trade to increasing trade in low value goods as companies use Internet platforms to sell such goods globally. Subsections 2.5 and 2.6 analyse the barriers to digital trade. Section 3 then lays out policy recommendations for how governments, firms, individuals, and non-governmental organizations (NGOs) can address these barriers and help create an enabling environment to realize the opportunities of the Internet and cross-border data flows for growing digital trade.

2. Enabling Digital Trade and Data Flows

2.1. Internet Expansion and its Impact on International Trade

2.1.1. The globalization of the Internet

One of the key drivers of the growth in digital trade has been the expansion globally of Internet access. By the end of 2015, 3.2 billion people are expected to be online, with 2 billion of these in developing countries (ITU 2015). However, this also means that 4 billion people will remain offline and 90% are in the developing world.

2.1.2. The mobile Internet

It is also the case that Internet access is increasingly happening over mobile devices, making access to such devices inseparable from the challenge of expanding Internet access. Indeed, mobile phones are now the main way that people in developing countries get online. Challenges to expanding such Internet access include the costs of Internet-enabled smartphones and the costs of mobile broadband plans. For instance, by 2018, 54% of mobile devices in the developing world will be “smart” compared with 93% of US mobile devices (Cisco 2014, 9).

2.1.3. Quantifying the impact of the Internet on international trade, economic growth, and employment

There is only limited data on the importance of the Internet and cross-border data flows for digital trade. One reason is that public trade data does not distinguish between whether goods and services are delivered offline or online. The impact of the Internet on digital trade is also a function of the digitization of economies broadly, which has made separating out the impact of the Internet on trade (and GDP) a complex task.

Notwithstanding this limitation, some economic modelling has been done that seeks to quantify the relationship between Internet access, economic growth, and trade. A World Bank study found that a 10% increase in broadband penetration resulted in a 1.38% increase in growth in developing countries and a 1.21% increase in growth in developed countries (Qiang and Rossotto 2009). In terms of the impact of the Internet on trade, one study concludes that a 10% increase in Internet access leads to a 0.2% increase in exports (Freund and Weinhold 2004). Other studies using more recent data find even stronger impacts of Internet use on trade (Meijers 2014).

It is also the case that trade can increase country use of information technology (IT) and the Internet (Onyeiwu 2002). One way is through imports of advanced products from developed countries that can provide learning opportunities that facilitate greater use of new technology.

The digitization of economies also means that the Internet can affect trade through its impact on productivity, which in turn increases the competitiveness of these businesses domestically and globally (Bernard et al. 2007). For instance, use of the Internet to collect data and analyse it can improve firm productivity by making supply chains more efficient, improving distribution and transport schedules. Indeed, much of the strong productivity growth in the US in the mid-1990s through to the mid-2000s has been attributed to strong investment in information and communications technology (ICT) (Grossman and Helpman 1991, Bailey 2002). A recent study of EU firms also found that engaging in e-commerce increases labour productivity—and that e-commerce had accounted for 17% of EU labour productivity growth between 2003–2010 (Falk and Hagsten 2015). A 2014 US International Trade Commission (USITC) calculated the productivity gains from the Internet by surveying US businesses and converting the results into an economic model. The USITC found that the productivity gains from the Internet have increased US real GDP by 3.4–3.5% (USITC 2014).

Such potential for the Internet and data to increase productivity needs to be better understood given that since 2007, most countries have been experiencing low rates of growth in total factor productivity (TFP) (Van Ark and Erumban 2015). There are various explanations for why the impact of the Internet and data on productivity is not been reflected in national productivity statistics. One reason for this is that the measurement of TFP fails to capture the positive network externalities from IT investment and Internet use (Chou et al. 2014, 292).

The Internet can also benefit employment, although this is a much debated subject. The Internet is creating jobs in areas such as IT, services, information-related products, and software (Terzia 2011). The Internet can be used to improve the labour market by streamlining job search capabilities, more effectively matching employers and employees. The USITC found that the Internet had increased US employment up to 1.8% (USITC 2014, 71).

The Internet is also disrupting industries and in the process shifting employment patterns in some sectors. For example, hotels are being disrupted by Airbnb, taxis by Uber, and retail by Amazon. Yet, a McKinsey report finds that for every job destroyed by the Internet, it has also contributed to the creation of 2.6 jobs (McKinsey 2011b).

The Internet is also affecting the demand for certain skills. Demand for those with skills to manage information and exploit data is growing, with less demand for low and middle-wage occupations and skills (Bresnahan 1999). Such employment impacts underline the need for policies to help those marginalized by these developments.

2.2. The Trade Implications of a Global Internet

The following discusses the ways that Internet access and cross-border data flows can affect international trade.

2.2.1. Big data and digital trade

The growth in the collection of data and the ability to transfer it across borders is allowing for the aggregation of big data. Combined with data analytics, big data is spurring new business models and forms of international trade. For instance, Facebook, Airbnb, Alibaba, and Mercado Libre are global companies that rely on the ability to collect data and transfer it globally to provide services to customers; creating “big data” that can be analysed to create new business opportunities. These data-driven opportunities also extend into areas such as health care—which McKinsey (2011a) estimates could be used to reduce US national healthcare expenditures by about 8%. According to a recent OECD (2015) report, big data has the potential to be a key driver of innovation, productivity growth, and economic competitiveness.

The Internet and ability to move data globally has also been an important driver of global value chains (Backer 2014). This has included using data to manage globally disperse production units, to enable global collaboration on design and R&D and to run transportation management systems that connect supply chains with logistics networks.

The Internet of Things (IoT) is another area that will be a new source of data and where the opportunities are only beginning to be realized. For example, the value of machine-to-machine IoT is expected to grow from US\$44 billion in 2011 to \$290 billion in 2017 (Tsai et al. 2014). This includes in areas such as sensors in factories to increase the efficiency of operations and use of radio frequency identification (RFID) technology to track goods and manage distribution centres. In addition, the IoT is likely to largely be a business-to-business phenomenon—McKinsey estimates that approximately 70% of the value from the IoT will arise from business-to-business use (Bughin et al. 2015).

The IoT will generate a large amount of data. Collecting this data and turning it into knowledge will be a key feature of the IoT (Tsai et al. 2014). This will require the ability to collect data in one country, aggregate it with data from other countries, and to analyse it in a third country (creating so-called big data)—all of which will entail the ability to move data across borders.

Box 1: Improving the Global Delivery of Renewable Energy

Vestas—the Danish wind turbine company—collects data from its globally situated turbines and analyses it in Denmark to better understand the impact of temperatures, wind speeds, and air pressure on turbine performance, and to make precise service and maintenance schedules. A system of global data also allows Vestas to manage its global supply chains, including by alerting warehouses of needed parts that can then be shipped to the turbines in need of repair.

2.2.2. Business-to-business Internet commerce

Significant economic gains are arising from the Internet’s impact on transactions between businesses—commonly referred to as B2B transactions. In 2013, B2B e-commerce is estimated to have accounted for 90% of the total \$16.5 trillion of e-commerce (UNCTAD 2015). This includes using the Internet to access software and business service providers and to conduct market research in potential export destinations. Businesses are also using cloud computing to access data storage, processing power, and software applications as services, reducing IT infrastructure and services costs which improve productivity (Liebenau et al. 2012).

Access to business inputs online can itself be a form of trade when services are supplied from businesses situated globally. Such access by businesses can also indirectly grow trade when it leads to increased productivity, thereby making businesses more competitive domestically and in overseas markets. According to an OECD study, a 1% increase in the importation of business services is associated with a higher export share of 0.3% (Gonzales et al. 2012, 186).

Access to information globally is also creating new opportunities for collaborative R&D and design, which supports new business outcomes and can enable global commerce.

2.2.3. Access to global customers

The expansion of the Internet globally means that businesses can reach overseas customers and sell products online. Goods can be searched for and purchased online but delivered offline. Other digital products that are searched for and purchased online can also increasingly be delivered online. The Internet is also enabling businesses to deliver goods in more efficient and cost effective ways, using RFID technology to track and trace the movement of goods from suppliers to customers in real time.

The growth of Internet commerce appears to be amplified by the growth of a middle class. According to one estimate, cross-border online shopping was worth \$105 billion in 2013 (PayPal 2013). By 2017, over 45% of the world is expected to be engaging in online commerce (Statista Dossier 2014, 41).

The Internet has also led to a range of innovative business models that rely on a mix of advertising, as well as free or paid content. For example, Pandora receives fees for its steaming service, e-books are sold or rented online, games for mobile phones rely on app purchases, subscriptions and ad, and software can be purchased or subscribed (Lambrecht et al. 2014). As such content is sold globally, cross-border data flows are an increasingly necessarily enabler of such transactions.

2.2.4. The opportunities for small and medium-sized enterprises

Perhaps somewhat surprisingly, the global nature of the Internet is creating new opportunities not only for established and larger firms but also for SMEs to engage in international trade (USITC 2013a, 2–3). For example, 95% of SMEs in the US using eBay to sell goods and services are engaged in export to customers in more than 4 continents—compared with less than 5% of US businesses that export offline. And 74% of these SMEs are still exporting after 3 years, compared with 15% of offline exporters (eBay 2015).

In addition, nearly 60% of views of YouTube channels come from outside the home country of a channel's owner and 80% of YouTube views come from outside the US (YouTube 2015). These cross-border views of videos can translate into real economic gains for SMEs. For example, companies often see sales rise after they post videos of their product, and can use online videos as a launch pad to build real-world apps, products, and services for a global customer base. This is important because SMEs are the main drivers of employment and job creation across the world. SMEs that export are also more productive and pay higher wages (USITC 2010a).

The Internet provides various ways that SMEs can overcome traditional barriers to growth by reducing trade costs and allowing these businesses to serve overseas markets. For instance, a website gives SMEs an instant international presence without having to establish a physical presence overseas—often not an economic option for SMEs. Access online to cost effective business inputs is another important driver, such as online advertising and communication services, cloud computing, and access to critical knowledge and information on foreign markets (OECD 2009, USITC 2010b).

Box 2: Growing Strawberries in India

NEC from Japan uses the ability to transfer data globally to support greenhouse strawberry cultivation in India. Local growers measure and record the greenhouse environmental data, which is monitored remotely from Japan. Cultivation experts in Japan assess this data and provide advice and recommendations, promoting overall productivity enhancements.

Perhaps one of the more interesting phenomena that the Internet is revealing is that SMEs can specialize in specific tasks and use the Internet to deliver that service or as part of a global value chain (Grossman and Rossi-Hansberg 2006). For instance, NightHawk Radiology Services located in the US relies on broadband technology to employ radiologists in India and Australia to provide immediate diagnostic interpretation of CT images taken in American hospitals (USITC 2013b, 2–3).

2.2.5. The opportunities for developing countries

Internet access provides a range of economic growth opportunities for developing countries, including through new opportunities for entrepreneurs and small businesses in these countries to engage in international trade. For instance, an UNCTAD (2015, 2) report recently found that: “Local e-commerce companies are rapidly appearing in developing countries, tailored to the needs and demands of local users.” For instance, African online retailer Jumia is expanding into Cameroon and Uganda, in addition to its existing operations in Cote-d’Ivoire, Egypt, Kenya, Morocco, and Nigeria.

B2B transactions will have a large impact in developing countries as well. Some of this will be direct forms of international trade, for instance when service suppliers in one jurisdiction provide services to companies in another, such as in the business services sector between India and the United States as one notable example.

Other forms include local B2B transactions that increase the efficiency and competitiveness of domestic businesses, making them more competitive domestically and in overseas markets.

The Internet can also improve access to finance for developing country businesses; thereby overcoming domestic capital markets constraints on growth. For example, crowdfunding platforms already exist in emerging markets such as Brazil and Colombia, and developing countries in sub-Saharan Africa (World Bank 2013a, 32). According to the World Bank, developing country businesses could use crowdfunding to mobilize up to \$96 billion by 2025 (Ibid, 43).

As is the case for business generally, the Internet can help developing country firms overcome the costs of engaging in international trade. Developing country businesses can also use the Internet to sell goods and services online, directly to the consumer or as part of a global value chain (Ibid, 72). This includes trade in digital products that can be delivered online and thereby overcome barriers such as inefficient customs procedures and poor transportation infrastructure that have made international trade too costly (Adlung and Soprana, 4–5).

Getting access to customers globally using Internet platforms is another way that businesses in developing countries use the Internet to engage in international trade. For example, China’s Taobao.com provides a mobile platform that coordinates all e-commerce needs along a value chain (Ibid, 74). A survey of business in developing

countries using the eBay platform found that over 95% of SMEs were engaged in export, and that 60–80% of these businesses survived their first year, compared to only 30–50% for offline exporters (eBay 2013).

2.3. How the Internet is Changing Trade

The Internet and the growth in digital trade will have a growing impact on the composition and delivery of trade. The following outlines some of the areas where it is already apparent that this is likely to happen.

2.3.1. The growing importance of services trade

The Internet is increasing opportunities for trade in services. For example, professional services such as legal, engineering, and financial can now be provided online in part or in whole, depending on the nature of the service and the extent to which the domestic regulatory framework allows it to occur.

Digital trade is also blurring the distinction between goods and services. This is happening as goods are being traded as services, which are an increasingly important component of goods. For example, software has been typically distributed on a CD and therefore in the WTO context treated as a good, even though most of the value of the CD is in the software. Now that software can be delivered and updated online (often via the cloud), trade in software does not require goods to cross borders. This trend is also true for trade in books, movies and music—where trade in the physical form has been replaced by increasing amounts of cross-border movement of digital content.

The move from trade in goods to trade in services also has legal and policy consequences. Under the rules of the WTO, trade in goods and services are governed by different agreements—the General Agreement on Tariffs and Trade (GATT) and General Agreement on Trade in Services (GATS) respectively. While core non-discrimination principles of most-favoured-nation (MFN) treatment and national treatment are contained in both the GATT and the GATS, each agreement contains other important differences. For instance, the scope of coverage in the GATS is a function of scheduled commitments (so-called positive list) and it allows for exceptions to the MFN commitment and the national treatment requirement, which only apply to the specific liberalization commitments undertaken by the individual member. In contrast, the GATT MFN and national treatment commitments apply to all rules, regulations, and taxes affecting trade in goods. In addition, the level of market access liberalization in the GATS is generally less than that for goods in the GATT.

This can have specific meaningful consequences when it comes to a digital product, and the case law in this area is still at the early stage of development. For example, the importance of whether a digital product is classified as a good or service under the WTO was a key issue in

the *China Audiovisual* case. In that dispute, China argued that its trading rights commitments (which only apply to trade in goods) were not applicable as the measures being challenged regulated the content of films, which was a service.¹

The form of delivery—be it as a good or as a service—can also have other consequences such as with respect to the collection of customs duties. For example, software delivered on a disk is subject to border duties while the same software delivered online through digitized delivery can avoid such duties.

2.3.2. The impact of the Internet on the services value of goods

There are many and diverse commercial consequences of the Internet on goods and services and the relationship between the two. It has, for example, enabled growth in services that have now become part of goods. The technology component of some goods can fundamentally impact the value of the good. This is a form of what McKinsey refers to as digital wrappers—where digitization is enhancing the value of trade in goods (Manyika et al. 2015). For example, apps and geolocation devices are changing the business models of car manufacturers who need to conceive of their product more in terms of delivering transport solutions than simply as vehicles (Bughin et al. 2015). Or take RFID technology, which is being used to track the flows of goods and to drive significant improvements in logistics. According to one McKinsey report, Hewlett-Packard and BMW's use of RFID for managing global logistics networks reduced losses in transit by between 11–14% (Manyika et al. 2015, 37). To achieve these gains has required the ability to collect data globally and for it to be analysed in third countries in order to generate the knowledge that is used to improving logistics services.

Box 3: As Trucks Become Services

The Caterpillar 797F Mining Truck weighs 1.375 million pounds and can haul up to 400 tonnes of dirt. The value of this truck is increasingly reflected in the related services that Caterpillar offers. These include real-time data analytics on grading accuracy, load quantities, and quality of work, which can be used to minimize fuel costs and downtime, increasing productivity. Sensors that monitor tire pressure and utilization rates allow Caterpillar to determine when parts need to be replaced, reducing maintenance costs.

¹ WTO Appellate Body Decision, *China-Audiovisual Products*, WT/DS363/AB/R, para 15.

2.3.3. The implications of the Internet for domestic regulation

Digital trade can affect the capacity of domestic regulators to achieve their regulatory aims, for example in areas as diverse as consumer protection, financial stability, or health and safety. This can have positive and negative consequences. For example, a study by the WHO (2011) noted with concern that online purchases of pharmaceutical products allowed consumers to avoid domestic health and safety regulations such as the requirement to obtain a doctor's prescription.

Another area where digital trade has important impacts on regulatory goals is in the area of privacy. In the absence of a mechanism to manage differences in privacy regulation, the exporting country has an incentive to impose restrictions on the movement of personal data. This is in effect what has happened in the EU where the EU Privacy Directive prohibits the transfer of personal data to countries that do not have an "adequate" level of protection. The impact of EU privacy laws on cross-border data flows has been further complicated by a recent ruling by the European Court of Justice, which has invalidated the European Commission's adequacy decision under the US-EU Safe Harbour Framework.²

Managing the interface of privacy laws and data transfers matters for digital trade because a lot of the data that is being collected by online businesses in the process of exporting services is individual data. Personal data is any data that can be used to identify a person. Moreover, even anonymized data when combined with data analytics can be used to personally identify an individual.

Conversely, confidence in the EU to further open its market to digital trade will depend, in part, on how this affects its ability to enforce its domestic privacy laws. It is becoming increasingly apparent that the failure to address the regulatory externalities caused by digital trade will create incentives for governments to respond by restricting such trade either directly or indirectly (Mattoo 2015).

Another approach to dealing with the interaction between global data flows and protecting privacy is the APEC Privacy Framework, a set of principles to guide APEC members and businesses on privacy issues. APEC does not require or expect countries to adopt top-down privacy laws and instead emphasize flexibility in its implementation that could include in addition to legislation, industry self-regulation (APEC 2015, preamble 1).

2.3.4. Digital trade and balanced intellectual property rules

In the context of international trade, it is critical that countries approach intellectual property (IP) policy in a balanced manner.

As the OECD has noted, IP policy "can discourage innovation if pursued too strongly or too weakly." For example, "in an era of routine copying of text, data and images, copyright law may hinder the emergence of new kinds of Internet-based firms. It may also make scientists and other researchers reluctant to use text- and data-mining techniques" (OECD 2013, 49). Finding the right balance between IP protection that encourages innovation and maintaining competition and the diffusion of ideas over the Internet is important.

The Trans-Pacific Partnership (TPP) appears to take a positive first step in the direction of balanced IP. The TPP promotes effective enforcement of IP rights but also asks parties to "achieve an appropriate balance" in their copyright systems through limitations and exceptions based in purposes such as "criticism; comment; news reporting; teaching, scholarship, research, and other similar purposes."³

Initial research shows that when a country adopts balanced copyright rules and other limitations such as fair use, companies in these countries generate higher revenues, create more jobs, and spend more on R&D, when compared to countries with more closed lists of copyright exceptions (Gilbert 2015, Palmedo 2015).

In addition to ensuring that trade agreements promote balanced copyright, it can also be helpful to digital trade for agreements to tackle the issue of intermediary liability—whether Internet service providers (ISPs) should be liable for hosting or transferring content posted by users.

Legislators in the US, for example, made a series of deliberate regulatory choices that led to the rise of the modern Internet. The Communications Decency Act of 1996 exempted intermediaries (e.g. Prodigy, eBay, YouTube, Facebook, Twitter) for the speech of their users. The Digital Millennium Copyright Act of 1998 created a separate safe harbour for intermediaries when they are made aware of copyright-infringing content posted by their users and they take it down.

The US has now included appropriate protections on intermediary liability in the intellectual property context—modelled on existing national safe harbours—as part of several bilateral free trade agreements (FTAs) and the TPP. This is important, as many countries do not have in place intermediary liability regimes.

² Maximillian Schrems v. Data Protection Authority, Court of Justice of the European Union, C-362/14.

³ Trans-Pacific Partnership Intellectual Property Chapter, Article 18.66.

Similar protections from liability for non-IP content posted by users (e.g. defamation and other speech-related harms) should also be included in trade agreements.

2.3.5. Digital trade in low value goods

Digital trade is also changing the composition of goods trade. Pre-Internet, it was often not commercially viable to export low value goods. As a result, large companies exporting goods in bulk have dominated international trade. The development of Internet platforms that have connected business and consumers globally has opened up new opportunities for trade (often by SMEs) in individual goods of relatively low value. That such trade in low value goods is growing is suggested by data showing that the global delivery of small packets, parcels, and packages increased by 48% between 2011 and 2014.

Certainly, costs remain for such exporters, and these “barriers” (discussed in more detail below) will need to be addressed to realize the opportunities created by the Internet to for this digital trade to grow.

2.4. Increase Internet Access

Recognizing that digitization and the Internet is having profound consequences for the movement of goods and services, with considerable domestic regulatory and policy consequences, the paper outlines in what follows the key challenges and barriers to realizing the opportunities of the Internet for digital trade.

A threshold issue that needs to be considered by the global policy community is the differential access that exists around the world to the Internet itself. This digital divide limits the opportunities of the Internet for digital trade and, even more profoundly, economic development.

The role of Internet access as a development outcome is recognized in the post-2015 Sustainable Development Goals (SDGs). For instance, the goals of increasing access to resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation are all enabled by Internet access. Therefore, the SDGs also include the goal of providing universal and affordable access to the Internet in least developed countries by 2020. Access to ICT is also seen as necessary to achieve other SDGs, including as a means for achieving the goals of gender equality and empowering women and girls.

While Internet access has grown exponentially over the last 20 years, the rate of growth has slowed. This is because the easiest opportunities to increase Internet access have been realized, and, increasingly, those without Internet access are harder to reach. For example, approximately 75% of those without Internet access are concentrated in 20 developing countries, and those without access in these countries tend to be the poorest, often elderly and rural populations. The challenges of getting these people online will require innovative approaches, and Internet companies such as Google, Microsoft, and Amazon are already trialling new methods to expand Internet access, including through balloons and drones. But dealing with the challenges of

poverty, illiteracy, and lack of infrastructure in rural areas will need to be part of the solution.

The cost of using the Internet also affects use and therefore the potential of poorer businesses and consumers, in particular, to use the Internet for international trade. Average monthly fixed broadband prices are three times higher in developing countries than in developed countries, and mobile broadband prices are twice as expensive in developing countries, than in developed countries (ITU 2015).

There are various factors affecting the cost of Internet access, including geography, population, and the quality of existing infrastructure. Whether there is competition in the telecoms market is another important determinant of cost and one that is amenable to being addressed through trade policy (discussed below).

2.5. An Enabling Environment for Digital Trade

It is also the case that merely increasing Internet access cannot alone realize the opportunities of the Internet for international trade. The ability for businesses and consumers to use the Internet requires an enabling environment—a set of laws and institutions that support the process of buying, paying, and delivering digital products.

Providing the right regulatory environment to support digital trade is one of the most significant challenges to maximizing the opportunities of the Internet for digital trade. This is often not a simple question of more or less regulation but of establishing the right regulatory mix. The types of regulations and institutions that form an enabling environment for digital trade can be categorized into three buckets.

- The first are those regulations and institutions that must be present to give businesses and consumers the confidence to use the Internet to make cross-border transactions. This includes a cost-effective and timely dispute settlement mechanism; financial payment mechanisms; consumer protection laws; and protection of personal information. For digital products that are delivered offline, the ability for goods (which might be of low value) to avoid customs duties and be delivered rapidly is essential.
- A second set of regulations affects the types of information that is available online and the ability to transfer data across borders. This requires having in place rules and norms that limit (or prohibit) the use of regulations that reduce the openness of the Internet. Included here are data localization laws and regulations which restrict access to Internet content in order to support domestic competitors.
- A third set of regulatory issues arises from the need to address the impact of regulatory externalities caused by digital trade and the incentive this creates to restrict cross-border data flows. What is most often required here is regulatory cooperation among countries to address these externalities. The following goes into these challenges in more detail.

2.5.1. Factors affecting confidence in using the Internet for digital trade

2.5.1.1. Lack of harmonization/mutual recognition among jurisdictions that undermines trust

Trust is a key determinant of whether businesses and consumers are willing to engage in online commerce. One reason for lack of trust in digital trade is due to a shortage of reliable information about the seller. This is particularly acute for services exports because the buyer cannot visit the seller and the production and consumption of the service often takes place simultaneously. Rating systems are seeking to overcome these issues, but they are company specific and are not globally interoperable.

Regulatory differences between countries also increase the costs of assessing the quality and safety of the service. Such costs are compounded by a lack of interoperability between consumer protection laws across countries. The lack of a common approach to contract formation online also increases the risk of digital trade.

2.5.1.2. Inadequate mechanisms to settle cross-border disputes for low value goods

The impact of the Internet on international trade and in particular the expected increase in trade in low value goods raises new challenges for disputes settlement. Yet there is no global dispute settlement mechanism capable of resolving digital trade disputes in a timely or cost-effective way.

For one, resorting to domestic courts to address digital trade disputes will raise uncertainty as to which court has jurisdiction and whether judgements can be effectively enforced in another jurisdiction. In addition, resorting to domestic courts to resolve disputes over low value goods will often be impractical.

Neither is the WTO dispute settlement mechanism suitable. In many cases, digital disputes will not involve government measures that can be the subject of WTO dispute settlement. Even where there are measures that could be subject to WTO dispute settlement, the time taken to resolve a WTO dispute (usually around three years), the absence of damages as a remedy, and the lengthy compliance review process make the WTO an ineffective forum, particularly for SMEs and trade in lower value goods.

The absence of cost-effective and timely mechanisms for resolving disputes arising from online international transactions increases the risk of digital trade. In response, eBay has created its own dispute settlement process for transactions over its platform. Using this system, eBay resolves more than 60 million online disputes annually, most of them over low value goods (Rule and Nagarajan 2010, 5), highlighting the demand for such a system.

2.5.1.3. Security concerns

Security of data online is another concern that can undermine willingness to engage in digital trade. There are two aspects to this. One is the security of data from criminal activity. This can include everything from malware to ransomware that affects personal computers and mobile devices through to access by criminals to personal data stored by businesses engaged in online commerce (Cisco 2015). All of these threats increase the risk to consumers of providing the types of data required for digital trade to grow.

Another aspect to the national security issue is government use of the Internet to collect personal data for surveillance purposes. This issue has become particularly acute in the EU following the Snowden leaks about National Security Agency (NSA) use of private servers to collect data on non-US citizens. However, broad government surveillance powers are not limited to the US government and exist in many countries. Where people are particularly concerned about such government activity it can lead them to avoiding the Internet, including for digital trade purposes. Countries should review these regimes and require that surveillance (both domestic and foreign) be judicially authorized except in narrow cases such as an immediate emergency, and that it be limited in scope and duration.

In addition, the Snowden leaks have spurred commercial responses—such as Deutsche Telekom's efforts to build a so-called German cloud, which it claims will be free from US government surveillance as well as proposals to keep EU data within the Schengen Area. In such ways, consumer and business responses to government use of the Internet for national security purposes can have implications for digital trade. The Snowden leaks are estimated to cost the US cloud computing firms up to \$35 billion in lost revenue (Castro 2013).

2.5.1.4. Inadequate logistics networks

According to the World Bank (2013b, 34), the competitiveness of many countries is negatively affected by high trade costs arising from poor transport and logistics. This includes infrastructure such as ports, roads, airports, and ICT as well as logistics such as express postal services (World Bank 2012, 27–28). A World Economic Forum (2013) report estimates that improving customs administration and transport services could increase global GDP by up to \$2.6 trillion (World Economic Forum 2013).

Access to efficient logistics networks is also needed if businesses are going to effectively participate in global supply chains. Flows of goods among developing countries participating in regional supply chains are particularly sensitive to logistics costs (Saslavsky and Shepherd 2012, 18).

Internet-enabled trade in low value goods make logistic issues particularly important and raises some new questions. For instance, trade in high quantities of small value goods requires efficient customs processes and makes seamless linking between international and domestic delivery services particularly important, as these costs

can quickly make trade in low value goods unnecessarily complicated and often uneconomical.

A further challenge here is for trade logistics systems to be capable of handling returns—a distinguishing feature of the domestic e-commerce experience that will need to be replicated internationally if consumers are to fully engage in Internet-enabled international trade.

2.5.1.5. Access to international payment mechanisms

Access to international payments mechanisms is a crucial underpinning of all forms of digital trade. For instance, payments allow consumers to purchase goods and services from online retailers and for companies to purchase from suppliers. The above-mentioned \$105 billion in cross-border online shopping in 2013 was largely enabled by electronic payments (PayPal 2013).

To complete an online transaction requires international payment options. One way is to pay using a credit card. Another is to use intermediary payment systems such as PayPal or VeriSign that facilitate payments among non-merchants who cannot accept conventional credit card payments (Mann 2003).

Credit cards and e-wallet services such as PayPal, Apple Pay and VeriSign offer convenient, cost-effective ways of paying for online transactions. Other innovative payment mechanisms are also being developed, such as Square—which facilitates electronic payment via mobiles for SMEs. Saficom uses tools such as M-Pesa that allows mobile phone users in Africa to make payments. Unlike bank transfers or cash, consumers and businesses can achieve more efficient delivery, less leakage, and greater security due the ability to stop payment in the case of fraud or non-receipt of the goods or services. For vendors, the ability to receive payment almost immediately can expedite the delivery process and help manage cash flows. Safe and reliable digital payment mechanisms are also important for building trust in using the Internet for international trade.

There are, however, limits on the ability of consumers to use international payments mechanisms (Mangiaracina 2009, 12). For instance, access to a bank account and credit card are generally minimal requirements, but in many developing countries such access is limited (Mann et al. 2000, 63). According to the World Bank (2014) up to 2.5 billion people do not have access to banks or credit cards.

Another important challenge is that regulation designed for traditional financial institutions also tend to apply to international payment systems. This often creates costs without providing corresponding social benefits. There are various other challenges to developing international payments systems. These include:

- A lack of clarity regarding regulatory approaches to traditional financial services versus digital services, and on regulatory structures that can be improved to enable innovative digital financial services which benefit both consumers and businesses, while at the same time permitting jurisdictions to address legitimate security and other threats;

- Government mandated ceilings on the maximum amount that can be purchased online;
- Difficulty in verifying who is making the transaction to avoid being complicit in illegal activities such as fraud, money laundering, or terrorist financing;
- Interchange rules that require local switching, limiting access to some of the more efficient firms and cross-border players;
- Constraints on foreign firms in providing support to transactions within countries; and
- Currency caps that limit the value of cross-border purchases.

2.5.2. Restrictions on Internet openness

2.5.2.1. Data localization requirements

At least 20 countries have considered or adopted measures that would require data localization of some kind, such as obliging a company to build data centres in country to serve that market (Chander and Le 2014). For example, Russia has proposed a law that would require Internet companies to locate servers in Russia and store user data for six months after the data was created. India has also proposed requiring all email service providers to host servers in India (Ibid).

As noted above, the Snowden leaks have been one reason that governments and businesses are formulating approaches to localizing data. Data localization requirements often are enacted for other reasons, including as an IT job creation strategy; to improve access to data by law enforcement; or to protect privacy (Hill 2014). In certain authoritarian nations, data localization is also likely driven by a desire for greater control over the information that is accessible to their population (Ibid).

Such requirements are of concern due to their impact on the costs of providing Internet-based services such as cloud computing. These restrictions reduce the global Internet's economies of scale, raising the costs of access to Internet-related services. In some cases, data localization requirements could lead the providers of data services to exit the market, leaving domestic business with access to less efficient and effective services. If implemented on a sufficiently global level, data localization raises the prospect of fragmenting the Internet from a global system into regional or country-based systems (Ibid).

Data localization policies are also unlikely to achieve many of their goals. For instance, data security is ultimately about having robust security procedures and storing data at multiple places to minimize the security costs of a data breach. As a result, data stored locally in one or only a few servers may well end up being less secure. As some experts have observed, data localization requirements “do nothing on their own to make data safer; in fact, they will only make it impossible for cloud service providers to take advantage of the Internet's distributed infrastructure and use sharding and obfuscation on a global scale” (Ryan et al. 2013).

Further, forcing companies to build data centres is going to produce only limited jobs and will likely result in net economic costs. This is because few people staff data centres once construction of the centre is finished. Yet data localization raises the costs of Internet services such as cloud computing, which negatively affects all economic sectors.

Where data localization is focused on developing a local cloud industry, this is also likely to raise costs of cloud services where the domestic cloud provider is not as efficient as the international option. Moreover, such a policy fails to recognize the general-purpose nature of the Internet and cloud computing and its aggregate significance for economic growth (Jovanovic and Rousseau 2005) For such technologies, broad-based and low cost access that maximizes its utilization should be the aim of government policy.

2.5.2.2. Commercial restrictions

Restrictions on Internet content are also being used for commercial reasons. Such restrictions reduce the ability of buyers and sellers to transact and companies to operate across borders. In many cases, these restrictions are driven by the very success of foreign Internet-based companies, as governments seek to replicate their successes by adopting a digital version of infant industry industrial policy by protecting domestic Internet enterprises from foreign competition. These commercial Internet restrictions include routing traffic to domestically owned companies, blocking particular sites, or sufficiently degrading Internet access so that users turn to alternative and usually domestic websites.

These Internet restrictions are also frequently vague, not easily understood, and are administered in an arbitrary and non-transparent manner. For instance, the foreign company may not be aware that access to its website has been blocked.⁴ Foreign ISPs also are usually unaware of the criteria used by governments to determine whether to block a website. This creates risk that particular websites or Internet servers that are available one day may not be available the next, making it difficult to run an online business as sporadic or slow access to a site deters consumers. These restrictions negatively affect sales, advertising revenues, and the scope and size of international trade.

2.5.3. Regulatory externalities arising from digital trade

As outlined above, where the Internet enables the online delivery of services, domestic regulation can become an increasingly significant barrier. The Internet also enables people from one country to circumvent domestic regulatory regimes by consuming the service online, potentially undermining or making more difficult the achievement of regulatory goals in areas such as human health and safety. This is not a new phenomenon in that people have been able to travel to receive medical services. However, selling health services over the Internet avoids the cost of travel and can be done at scale. This creates policy externalities if, for instance, lower health regulation in an exporting country reduces the health of citizens consuming the online service, or less stringent privacy laws in one country undermine the stricter privacy laws in a third country (Mattoo 2015).

The response is not necessarily more regulation. Also, there may be benefits from regulatory diversity and the opportunities that the Internet provides to access such online services. For example, the Internet is enabling the provision of medical services to remote communities. The better approach here is to incentivize regulatory cooperation across countries to manage the various impacts of digital trade on domestic regulatory goals.

⁴ See US request to China for information under paragraph 4 of Article III of the WTO General Agreement on Trade in Services.

3. Policy Options to Maximize Trade in the Digital Economy

The world is still in the early phase of developing and exploiting the commercial and other consequences of the Internet. Further establishing and maintaining a rules-based international trading system supportive of the digital economy is crucial to safeguard and enhance the benefits that flow to both developed and developing countries from the Internet itself and the digital economy. This requires both short and longer-term measures, actions by governments, firms, and private individuals, and continued examination of the existing rules frameworks within countries and at the international level. It also requires some new thinking and understanding about this dynamic area of economic change. What follows, therefore, are recommendations that include actions for the WTO, for policy-makers undertaking sectoral or regional initiatives, domestic regulators, private firms, expert groups and others.

As the discussion above has highlighted, an area of increasing importance is the treatment of data itself—within and between borders. Domestic regulatory frameworks are in flux in many countries and thus international frameworks are particularly hard to develop. New concerns are arising with respect to security and privacy, even as new opportunities arise for businesses and consumers alike.

A coherent and effective response to the challenges and opportunities presented by the Internet and data flows for trade will require heterodox and innovative approaches that involve all stakeholders. Trade policy and trade rules have an important role to play in clarifying existing commitments and developing new rules where opportunities arise, including in FTAs and at the WTO. The impact of digital trade on regulatory agendas means that cooperation at the regulatory level must also be part of the picture. This will require regulators to address difficult questions, such as how to assess the effectiveness of different privacy regimes and to develop mechanisms that allow such differences to co-exist without impeding cross-border data flows.

The private sector can also play an important role given the broad-based economic importance of the Internet and cross-border data flows for all sectors. As a result, companies are already experimenting with solutions, such as the need for a digital dispute settlement mechanism, frameworks to increase trust in digital trade, and responses to the need for online payment systems. Moreover, the dynamism of Internet use in the commercial space means that the private sector is often best placed to help governments and regulators understand the needs and impacts of proposed new rules.

The following identifies policy options that seem implementable, even if over the long term, given the complex range of political economy and institutional challenges.

3.1. Maximize and Update WTO Rules Both in the Near and Long Term

Policy Option 1: Implement and consider expanding the WTO Trade Facilitation Agreement to support digital trade (short to long term)

The recent WTO Trade Facilitation Agreement (TFA) is an important outcome on customs reform. The Agreement applies to all WTO members, although there is scope for developing and least developed country members to delay implementation of parts of the agreement.⁵ The TFA will come into force only after two-thirds of WTO members ratify the agreement and this should be a priority goal.

The TFA supports digital trade in a number of important ways. For instance, it includes commitments to enhance transparency and accountability of customs procedures and officials; it requires the publication of all laws, regulations, procedures, and issues affecting trade; and much of this information must be made available on the Internet. WTO members have also agreed to establish inquiry points and to give traders, and other interested parties, opportunities for comment on proposed changes affecting customs procedures.

The agreement should also increase the speed with which goods move through customs by requiring WTO members to have procedures that allow submission of import documentation prior to arrival with the aim of expediting release of goods upon arrival. Members also have agreed to develop procedures for expedited release of goods through air cargo facilities. More explicit consideration of those dimensions of customs review and clearance that can be facilitated through digitization should be actively considered. This should include particular attention on the connectivity dimensions of these steps, such as requiring acceptance of digital submission of customs forms.

The TFA also fails to address the *de minimis* level of customs duties. Currently, countries apply different *de minimis* levels, ranging from \$1,000 to under \$1. The higher the *de minimis* level the higher the value of the good before duties are charged.

⁵ WTO Agreement on Trade Facilitation, WT/MIN(13)/W/8, Section II.

Requiring businesses to make customs declarations for goods of low value creates additional transaction costs (Lesser and Moisé-Leeman 2009, 39). According to one study, a 10% increase in time to move goods across borders reduces exports of time-sensitive manufacturing goods by more than 4% (Djankov et al. 2010). For trade in lower value goods that the Internet is enabling, such costs account for a relatively larger share of the total value, making it an even more serious trade barrier. Moreover, it is the consumer that is responsible for completing customs forms and paying the duties, adding another barrier to digital trade. Returning goods are also often treated as imports, which means that they are again subject to similar documentation requirements and customs duties.

Policy Option 2: Make permanent the moratorium on customs duties on electronic transmissions (short term)

Currently, WTO members have agreed a moratorium on imposing customs duties on electronic transmission of products. It is expected that a further extension of this moratorium will be agreed during the WTO Nairobi Ministerial. However, a permanent moratorium should be the aim, as it would increase business certainty and further support digital trade.

Policy Option 3: Task the WTO to initiate an ambitious E-Commerce Work Programme that supports the digital economy and trade in both developing and developed economies, and expand WTO tools for gathering and disseminating data on digital trade (short term)

At the 2013 WTO Bali Ministerial, members instructed the General Council to substantially invigorate the Work Programme on Electronic Commerce. The WTO bodies responsible for this work programme—the Goods, Services, and TRIPS (intellectual property) Councils, and the Trade and Development Committee—have met a number of times since, but little progress appears to have been made.⁶ WTO members should reaffirm the importance of this work and provide more specific direction on what this work programme should address. The WTO should consider establishing an external group of experts to recommend steps that could be taken to support digital trade. This could include establishing a platform in the WTO that would act as a repository of information and insight about the digital economy and its relationship to the international trade system, rules, and agreements. To this end, the WTO can enhance analytical work, assemble relevant information on regional and plurilateral agreements by identifying those portions that specifically address the digital economy, and convene expert and other groups to focus on this evolving area of global commerce.

Box 4: Existing Digital Trade Rules in US Trade Agreements

Some digital trade rules exist in the WTO and these have been expanded on in various FTAs that the US has been a party to. The recent US-Korea (KORUS) FTA provides the most up to date set of digital trade rules that are in force. Key KORUS digital trade rules are as follows:

- To allow financial institutions to transfer information across borders for data processing where such processing is required in the ordinary course of business;
- To “endeavor to refrain from imposing or maintaining unnecessary barriers to electronic information flows across borders.” This commitment is subject to the GATS Article XIV exceptions, which includes measures necessary for protection of privacy of individuals (KORUS FTA Article 23.1.2);
- Not to impose customs fees on trade in digital products;
- Not to discriminate in favour of domestic digital products over like imported digital products;
- Rules to encourage use of digital signatures;
- To promote cooperation among national consumer protection authorities on the prevention of deceptive practices in electronic commerce;
- Commitment to a set of digital trade principles; and
- Internet intermediary liability protection.

The TPP expands on KORUS digital trade rules and includes commitments on the free flow of data across borders subject to exceptions as well as disciplines on data localization requirements.

Policy Option 4: WTO bodies such as the Trade Policy Review Mechanism (TPRM), or an outside group of experts, should be tasked with evaluating the extent to which members’ digital trade-related measures are consistent with their existing WTO commitments, and report on digital protectionism measures around the world on an annual basis (medium term)

WTO rules in a number of areas already provide a strong foundation in support of the digital economy and digital trade (Enders and Porges 2015). Several cases that have gone through dispute settlement have addressed selective digital trade issues. Looking ahead, rather than move forward on a case-by-case basis, a WTO working group could be established to consider how the needs of digital trade are covered under the existing rules framework,

⁶ WTO, “Item 6 – Work Programme on Electronic Commerce – Review of Progress, Report by Ambassador Alfredo Suescum – Friend of the Chair”, WT/GC/W/701, 24 July 2015.

identifying those areas where coverage is robust and those where it is either inadequate or ambiguous. Certain principles are already apparent:

- A GATS commitment already includes the electronic delivery of the service, even if electronic delivery of that service was not possible when the commitment was made (*US-Gambling; China-Audiovisual*);
- A GATS scheduled commitment on “all” of any service includes those services needed to deliver that service, including access to the Internet and the ability to transfer data across borders (*China-Electronic Payment*) (Enders and Porges 2015); and
- The WTO Telecommunications Annex commitment to access and use of public telecommunications transport networks for the delivery of a service includes those networks for online delivery (*China-Electronic Delivery*).

The working group (or external expert group) should also consider the principles and rules that have been developed in bilateral and regional fora that support digital trade. In addition, the TPRM (or group of experts) should be tasked with investigating whether WTO members have adopted measures that affect digital trade and might be inconsistent with their WTO commitments.

Policy Option 5: Conclude the expansion of the WTO Information Technology Agreement (ITA) (short term) and then increase its signatories (medium term)

The ITA—a plurilateral agreement involving 75 WTO members representing 97% of world trade in ICT products—has reduced tariffs to zero on a range of ICT goods. Growth in ITA exports has been at around 10% since the ITA was reached, faster than for other manufactured goods. Additionally, developing countries now represent over 40% of the ITA membership and account for over one third of global exports of ITA goods.

The ITA was finalized in 1997 and needs to be updated to include ICT goods developed over the last 15 year. However, progress in agreeing on an expanded list of goods has been slow. There is a large range of goods being proposed for inclusion in a new ITA that would reduce costs of developing Internet access. These include coded key cards used to access Internet content such as software; machines for making optical fibre for cables that provide Internet access; and machines used to make semiconductors that can drive down the costs of computers and mobile devices used to access the Internet (USITC 2012).

On 24 July 2015, an expanded list of tariff lines was agreed that would be subject to duty elimination. Countries should rapidly conclude implementation of the ITA expansion, including tariff schedules and staging. Expanded geographical coverage (India, Brazil, Mexico, and South Africa are not parties to the expansion agreed in 2015) should be a priority.

Policy Option 6: Consider updating the WTO Telecoms Reference Paper to ensure competition over the Internet (long-term)

The WTO Telecoms Reference Paper outlines a number of fundamental principles that are designed to regulate competition. It has only been subject to review or engagement under the rules of the WTO in one decision.⁷

The WTO Telecoms Reference Paper includes pro-competitive regulatory principles for the telecommunications sector, which are designed to ensure that former monopoly operators do not use their market power—such as control of access to telecommunications infrastructure—to undermine competitive opportunities for new market entrants (Brockers and Larouche 2008, 331). For instance, the Reference Paper requires WTO members to prevent “major suppliers” from engaging in anti-competitive practices such as cross-subsidization. The Reference Paper also includes commitments to allow for interconnection with a major supplier on non-discriminatory terms, in a timely fashion, and with cost-orientated rates. It also requires WTO members to allocate scarce resources such as spectrum in an objective, timely, transparent, and non-discriminatory manner.

The Reference Paper has been an important tool underpinning the move towards greater competition in the telecommunications sector. However, the Reference Paper is not fully self-explanatory and, as noted, has been litigated in the WTO only once. WTO members should seek to clarify the application of the Reference Paper to ensure the preconditions for competition over the Internet as well as traditional networks and update where necessary.

Policy Option 7: Clarify the application of WTO members’ GATS commitments to digital trade (medium term)

The convergence among basic and value-added telecommunications services has rendered the scope of GATS commitments increasingly unclear. According to the WTO, basic telecommunications services include, in addition to voice, the transmission of video but not the provision of email. GATS commitments have been made for basic telecommunications services. For example, almost all WTO members have made separate GATS commitments for telecommunications services and audiovisual services, yet as the Internet allows for video to be provided over telecommunications networks, it is unclear whether the supply of video over telecommunication lines is covered in GATS commitments (Luff 2012, 67). Clarity here would help determine the extent that GATS liberalizes relevant sectors for digital trade and where further market access is needed.

⁷ WTO Panel Report, Mexico-Measures Affecting Telecommunications Services, WT/DS204/R. 2 April 2004.

3.2. Negotiate a Digital Trade Agreement

Policy Option 8: Negotiate digital trade rules in the Transatlantic Trade and Investment Partnership (TTIP), the Trade in Services Agreement (TiSA), and conclude a plurilateral digital trade agreement at the WTO (medium term)

In our view, critical areas of examination over the medium term are the evolving national and international frameworks that impact cross-border data flows. Data has become central to innovation by companies big and small, and essential to global value chains. As discussed, regulation around data can be a disguised restriction on trade with unintended consequences for employment, growth, and innovation. There is a need to develop greater consensus or a critical mass around core concepts regarding cross-border data flows. Rules and principles to support and expand digital trade are being inserted in some trade agreements. This is a positive step that should be discussed and expanded to more jurisdictions.

As indicated, the TPP Agreement includes new rules on digital trade. The US and EU, in TTIP, and the countries negotiating TiSA, should build on these rules. In addition, digital trade principles have been agreed in the OECD and bilaterally, such as the US-Japan Internet principles. This work provides a basis for developing a specific agreement on digital trade that should be negotiated at the WTO on a plurilateral basis—open to those interested in joining, with consideration given to applying any such agreement on an MFN basis to all WTO members.

In addition to considering the inclusion of the above options in a trade agreement, the following are further key commitments that should be part of any set of digital trade rules.

Policy Option 9: Expand services market access commitments that implicate cross-border data flows (medium term)

The potential for the Internet to grow services trade makes addressing services trade barriers particularly important.

Reducing barriers to services is part of the WTO Doha Round but progress remains slow. In the meantime, services liberalization is being pursued in FTAs, the most important being TiSA, the TPP, and the TTIP. These negotiations should be the immediate focus for expanding market access commitments for services trade.

Policy Option 10: Allow for the free flow of data across borders subject to an exceptions provision based on GATS Article XIV and a tightly-constrained national security exception (medium term)

Currently there are only limited commitments specific to cross-border data flows, although restrictions on such flows may implicate a variety of WTO commitments. The WTO Understanding on Commitments in Financial Services includes agreement that members will not “prevent transfers of information or the processing of financial information,

including transfers of data by electronic means.” This commitment, however, is balanced against the right of a WTO member to protect personal data and personal privacy so long as such right is not used to circumvent the provisions of this agreement.

In KORUS, the US and Korea upgraded their commitment and agreed to allow financial institutions to transfer information across borders for data processing where such processing is required in the ordinary course of business. Unlike the WTO commitment, KORUS (Annex13-B, Section B) does not balance this right to transfer data with the right of a party to protect personal data.

These commitments, however, are limited to the financial sector and need to be expanded. KORUS (Article 15.8) has taken a step in this direction and includes a commitment by the parties to “endeavor to refrain from imposing or maintaining unnecessary barriers to electronic information flows across borders” (see Box 4). This commitment is appropriately subject to the GATS Article XIV exceptions, which include measures necessary for protecting the privacy of individuals, as well as a national security exception. However, the hortatory nature of this commitment limits its effectiveness. More binding disciplines may be necessary to facilitate the flow of data.

Furthermore, many WTO members have made GATS commitments on cross-border computer and related services. Restrictions on cross-border data flows could violate these existing commitments, as well as provisions on access to information included in the Basic Telecom Agreement.

Policy Option 11: Commit to not require data localization (medium term)

Trade agreements should include commitments to not require data to be stored locally. The TPP agreement will be the first to include disciplines in this area once it has been ratified. At the same time, governments, the private sector, and NGOs should work to address the concerns and goals that motivate data localization laws. This includes:

- Reform of the mutual legal assistance treaties (MLATs): MLATs provide a framework for a law enforcement agency to request information being stored in another jurisdiction. However, the MLAT process is often circumvented due to its often slow and cumbersome procedures (such as in the current *Microsoft-Ireland* case). Governments should seek to improve the use of MLATs in parallel with rules preventing data localization laws.
- Commitments with regards data encryption would give consumers greater confidence that their data will not be accessed without a valid subpoena (Hill 2014).
- Cooperation on data privacy regulation (see below).

Policy Option 12: Include a balanced set of IP rules and intermediary liability protections—including enforcement measures, limitations and exceptions such as fair use, and appropriate protections from IP and non-IP intermediary liability (medium term)

As discussed, the Internet enables diverse new forms of digital content to be traded across borders, as well as the creation of new business models based on user-generated content and communications. A balanced IP regime with effective enforcement measures, clear limitations and exceptions such as fair use, and appropriate protections from intermediary liability will help promote these new forms of digital trade. The TPP for instance requires parties to “achieve an appropriate balance” in their copyright systems through limitations and exceptions (such as fair use).

The liability of Internet intermediaries such as ISPs and Internet platforms for international trade is an area that has yet to be addressed in the WTO. The challenge is to balance the need to protect IP rights while enabling Internet services to grow as platforms for online creativity, innovation, and expression.⁸

Some rules in this area are already being developed in FTAs and regional agreements. For example, TPP requires parties to establish a system of copyright safe harbours for Internet services, and prohibits parties from making these safe harbours contingent on ISPs monitoring their systems for infringing activity. Similar rules that require a balanced set of IP rules as well as providing safe harbour could be included in other trade agreements such as the TTIP and TiSA.

3.3. Expand and Deepen Regulatory Cooperation on Digital Trade Issues

Policy Option 13: Develop regulatory cooperation in areas affected by digital trade (medium term)

There are a number of areas where regulatory cooperation could address barriers to digital trade. The following is an outline of some of the main ones.

Privacy: Privacy of personal data online is an important and growing issue that underpins trust in digital trade. There is no global approach or level of privacy. However, and as outlined above, lower levels of privacy protection in one country can have consequences in trade and economic relations between nations.

Such an issue has arisen in the context of US-EU data flows where the EU view that the US did not provide an “adequate” level of privacy protection in the US would have meant that under the EU Privacy Directive, personal data collected from the EU could not be transferred to the US—a costly restriction on a trade relationship valued at over \$650 billion annually.⁹

The solution was regulatory cooperation in the form of the US-EU safe harbour framework. The safe harbour framework consists of seven principles that largely reflect the key elements of the EU Data Protection Directive. Under the framework, US organizations can either join a self-regulatory privacy programme that adheres to the safe harbour principles or self-certify (the most common approach) to the Department of Commerce that they are complying with these principles. Additionally, the US companies must identify in their publically available privacy policy that they adhere to and comply with the safe harbour principles.

However, the recent European Court of Justice (ECJ) decision mentioned above calls into question the effectiveness of the EU-US Safe Harbour agreement for enabling the transfer of personal EU data to the US.¹⁰ In doing so, this ECJ decision underscores the need for transnational regulatory cooperation that supports cross-border data flows and the achievement of other regulatory goals such as the privacy of personal information.

Consumer Protection: Cooperation among consumer protection agencies can help increase consumer protection for digital trade and thus raise confidence and willingness to engage in such trade. This is also a regulatory agenda for which commitments could be included in trade agreements. For instance, KORUS (Article 15.5 and 16.6) requires that consumer protection agencies in Korea and the US cooperate in the enforcement of each other’s laws against fraudulent and deceptive practices. Broadening such commitments among countries is one way to give impetus to further cooperation among agencies.

Rules on online contract enforcement and formation: This is an area amenable to international rule-making and cooperation among national agencies. In its FTA e-commerce chapters the US includes commitments that go some way towards addressing the absence of common rules on contract formation online. For example, in KORUS (Article 15.4.1(a)) the parties to the FTA agree not to prevent the parties to an electronic transaction from determining their own authentication methods. Additionally, KORUS (Article 15.4.2) requires the authentication of e-commerce transactions to meet certain performance standards where these standards are necessary to achieve a legitimate government objective. Other regulatory approaches are also possible. For instance, countries could seek to agree on ways to mutually recognize their laws on electronic signature and authentication methods.

⁸ As mentioned supra, in the US, this balance is reflected in the 1998 Digital Millennium Copyright Act, which creates a safe harbour for ISPs that are unaware of hosting IP infringing content and requires its removal upon receipt of a takedown notice. The OECD has also examined the challenges of promoting effective IP enforcement and establishing appropriate limits on the liability of intermediaries.

⁹ Working Party on the Protection of Individuals with Regard to the Processing of Personal Data, Opinion 1/99 Concerning the Level of Data Protection in the United States and the Ongoing Discussion Between the European Commission and the United States Government, at 4, DG MARKT Doc. 5092/98/WP 15 (Jan, 26, 1999).

¹⁰ Maximillian Schrems v. Data Protection Authority (op. cit.).

Transparency and due process: This is less a matter of cooperation among regulators than a set of reforms that regulators can undertake domestically. The main reforms would require regulators to consider the digital trade effects of regulation. This could include opportunities for stakeholders from exporting countries to learn of the regulation before it comes into effect and to have an opportunity to provide comments. This would give regulators information about the specific trade impacts of regulations and provide space for their consideration before the regulation is finalized. Requirements for responses to such comments would make it more difficult to justify regulations adopted for protectionist reasons.

Policy Option 14: Improve the regulation of digital payment services (medium term)

As discussed in section 2.5.1.5, realizing the benefits of digital trade calls for international payment systems that enable consumers to purchase goods and services online. A number of elements need to be addressed, including the following:

- New services commitments in trade agreements should remove restrictions of financial flows across borders;
- Regulation tailored for international payment providers that enables innovation consistent with the systemic risk from such entities;
- Commitment to the free flow of data which allows banks and credit card companies to verify and authorize payments;
- Access to global information allows financial institutions to develop better risk profile that more accurately reflect the risk of lending to a particular business—the current absence of risk profiles for many developing country businesses leads to higher costs of capital; and
- Countries should make transparent and easily accessible their requirements on banks and non-financial institutions for reporting suspected illegal activities such as money laundering and terrorist financing.

Policy Option 15: Develop a dispute settlement mechanism for digital trade (medium term)

As discussed, a dispute settlement process is needed that can respond in a timely and cost-effective way to issues that arise in the context of digital trade.

There are already some efforts to develop dispute settlement mechanisms for digital trade and these should be expanded on. For instance, the 2007 OECD Recommendations on Consumer Dispute Resolution and Redress look at the need to provide consumers with access to dispute resolution for cross-border disputes. The OECD recommendations emphasize the need for states to encourage businesses to establish voluntary, effective, and timely mechanisms for handling and settling complaints from consumers, including “private third party alternative dispute resolution services, by which businesses establish, finance, or run out-of-court consensual processes or adjudicative processes to resolve disputes between that business and consumers.”

Additionally, the United Nations Commission on International Trade Law (UNCITRAL) has established a working group to develop model rules on alternative dispute resolution processes, which “are intended for use in the context of cross-border, low value, high volume transactions conducted by means of electronic communication.”

As outlined above, eBay has developed a dispute settlement mechanism for disputes arising on its platform. A dispute settlement mechanism that builds on such experience and which is quick, cost-effective, globally available, and enforceable seems to be the key elements. In the following section there is a recommendation regarding a role for the private sector in further developing and expanding such a dispute settlement mechanism. Indeed, this is an area where public-private sector cooperation is needed to develop an approach that is effective and responds to the needs of digital traders globally.

3.4. Governments, Businesses, and NGOs Working Together to Support Digital Trade

Policy Option 16: Improve data gathering and metrics concerning digital trade (medium term)

The absence of quantitative data on the extent of digital trade and importance of the Internet and data flows for economic growth and jobs remains an important limit on understanding the scale of the issue and what it means from a policy perspective. Government statistics agencies need to take the lead in collecting data on the digital economy and digital trade. International organizations such as the OECD and the World Bank could also play a role.

At the same time, business can also be more active in this space as the private sector often has access to aggregate data that can help shed light on the economic impact of digital trade and data flows.

Policy Option 17: Enhance government and private sector cooperation on digital trade issues (medium term)

Many of the above recommendations for new trade rules would be enhanced with parallel work and engagement by the private sectors and NGOs. Private sector initiatives in developing dispute settlement mechanisms for digital trade, for example, are outlined in policy option 15.

Another area ripe for engagement and work by the private sector is on data security. Ensuring security of the network is one of the key issues that effects consumer and business confidence in digital trade, in addition to the direct costs that security breaches have on individual businesses. The Obama Administration is already working with the business community to identify the scope of the issue and potential responses, including the importance of encryption. Indeed, the administration has included encryption as one of their core digital trade goals as a means of addressing security and privacy concerns (USTR 2015).

The private sector could also take a lead role in building on and expanding acceptance of digital trade principles on the importance of the Internet and data flows for trade and investment. For example, the US-Japan Internet Economy Industry Working Group has developed policy proposals for government on how to ensure the openness of the Internet (Keidanren 2014). Yet the significance of this issue remains poorly understood globally. It is often still seen as a priority for the IT sector alone; and the broad-based importance of the Internet for all economic sectors is underappreciated. It is thus necessary to build greater awareness and develop consensus around principles that recognize the value of the digital economy and trade and that can guide government regulation of the Internet. This could involve private sector input in economic fora such as APEC and the OECD, where such principles have been developed and could be expanded. It could also include purely private sector led outcomes using the World Economic Forum or other business groups.

Policy Option 18: Expand financing of digital infrastructure in developing countries (medium-long term)

Governments, the private sector, and NGOs should build on the importance assigned to Internet access in the SDGs. This could include developing innovative financing models to expand broadband infrastructure and to reduce the cost of access to Internet-enabled devices in developing countries. Official development assistance and financing from international financial institutions (including the newly established Asian Infrastructure Investment Bank) is particularly relevant here as a way of reducing the risk of such investments and using public balance sheets to crowd-in private sector finance.

As a corollary, the World Bank should consider updating its Ease of Doing Business methodology to include in its Trading Across Borders section the ease of cross-border data flows.

4. Concluding Note

Data is increasingly central to how governments, businesses, and people conduct their affairs. The ability to move data across borders also underpins the globalization of the Internet, global supply chains, and foreign investment. Companies are using data to reach consumers, innovate, and develop new business models. Businesses and consumers in developing countries as well as SMEs are using access to the Internet to become part of the global economy in ways that were not previously possible. As a result, the Internet and global data flows are creating new opportunities for more inclusive growth and employment.

At the same time, governments are grappling with some of the challenges presented by the ability to rapidly and seamlessly move large quantities of data overseas. For instance, lower levels of privacy for personal data and consumer protection laws in one country can undermine these standards in the data exporting country. Such regulatory externalities from global data flows points to the need for increased regulatory cooperation. Some governments are also blocking access to online content to protect domestic businesses or due to political concerns.

Current international trade and investment rules and norms navigate between competing goals and do not adequately support an open Internet or the flow of data across borders. This report provides a broad range of recommendations for action by governments, businesses, and NGOs to engage in new forms of regulatory cooperation and the learning and sharing of experience. The objective is to develop a comprehensive set of international trade rules, norms, and frameworks that seek to ensure that the opportunities of the Internet and global data flows are fully realized.

References and E15 Papers

- Adlung, Rudolf, and Marta Soprana. 2012. "SMEs in Services Trade – A GATS Perspective." *Staff Working Paper* ERSD-2012-09. WTO Economic and Research Statistics Division.
- APEC. 2015. *APEC Privacy Framework*. APEC Secretariat.
- Backer, Koen de. 2014. "Mapping Global Value Chains." *European Central Bank Working Paper Series* 1677.
- Baily, M.N. 2002. "The New Economy: Post Mortem or Second Wind? Distinguished Lecture on Economics in Government." *Journal of Economic Perspectives* 16(2): 3-22
- Bernard, Andrew B., J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott. 2007. "Firms in International Trade." *Journal of Economic Perspectives, American Economic Association* 21(3): 105-130.
- Bresnahan, T.F. et al. 1999. "Information Technology, Workplace Organization and the Demand for Skilled Labour: Firm-Level Evidence." *Working Paper* Economic Department Stanford University.
- Brockers, Marco, and Pierre Larouche. 2008. "A Review of the WTO Regime for Telecommunications Services." In *The World Trade Organization and Trade in Services* edited by K. Alexander and M. Andenas. Martinus Nijhoff.
- Bughin, Jacques, Michael Chui, and James Manyika. 2015. "An Executive's Guide to the Internet of Things." *McKinsey Quarterly*, August.
- Castro, Daniel. 2013. "How Much will PRISM Cost the US Cloud Computing Industry" *ITIF*, August.
- Chander, Anupam, and Uyen P. Le. 2014. "Breaking the Web: Data Localization vs. the Global Internet." *Emory Law Journal* 63(3).
- Chou, Yen-Chen et al. 2014. "The Impacts of Information Technology on Total Factor Productivity: A Look at Externalities and Innovations." *International Journal of Production Economics* 158: 290–299.
- Cisco. 2015. *Midyear Security Report*.
- Cisco. 2014. *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update (2013-2018)*.
- Djankov, Simeon, Caroline Freund, and Cong S. Pham. 2010. "Trading on Time." *The Review of Economics and Statistics* 92(1): 166-173.
- eBay. 2015. *US Small Business Global Growth Report*.
- eBay. 2013. "Commerce 3.0 for Development. The Promise of the Global Empowerment Network" *An eBay Report* based on an empirical study conducted by Sidley Austin LLP.
- Falk, Martin, and Eva Hagsten. 2015. "E-Commerce Trends and Impacts Across Europe." *UNCTAD Discussion Paper* 220.
- Freund, Caroline L., and Diana Weinhold. 2004. "The Effect of the Internet on International Trade." *Journal of International Economics* 62: 171–189.
- Gilbert, Benjamin. 2015. "The 2015 Intellectual Property and Economic Growth Index." *Lisbon Council Policy Brief*.
- Gonzales, Frederic, J. Bradford Jensen, Yunhee Kim, and Hildegun Kyvik Nordas. 2012. "Globalisation of Services and Jobs." In *Policy Priorities for International Trade and Jobs*. Paris: OECD Publishing.
- Grossman, Gene M., and E. Helpman. 1991. *Innovation and Growth in the Global Economy*. Cambridge, MA: MIT Press.
- Grossman, Gene M., and Esteban Rossi-Hansberg. 2006. "The Rise of Offshoring: It is Not Wine for Cloth Anymore." In *The New Economic Geography: Effects and Policy Implications*, 59–102. Jackson Hole Conference Volume, Federal Reserve of Kansas City.
- Hill, Jonah Force. 2014. "The Growth of Data Localization Post-Snowden: Analysis and Recommendations for U.S. Policymakers and Business Leaders." *The Hague Institute for Global Justice*, Conference on the Future of Cyber Governance.
- ITU. 2015. *ICT Facts and Figures – The World in 2015*. Geneva: ITU.
- Jovanovic, Boyan, and Peter L. Rousseau. 2005. "General Purpose Technologies." In *Handbook of Economic Growth* 1 Part B.
- Keidanren and American Chamber of Commerce in Japan. 2014. "US-Japan Internet Economy Private Working Group Joint Statement", March.
- Lambrecht et al. 2014. "How do Firms Make Money Selling Digital Goods Online." *Rotman School of Management Working Paper* 2363658.
- Lesser, Caroline, and Evdokia Moisé-Leeman. 2009. "Informal Cross-Border Trade and Trade Facilitation Reform in Sub-Saharan Africa." *OECD Trade Policy Working Paper* 86.

- Liebenau et al. 2012. "Modelling the Cloud." *London School of Economics Research Online LSE-Enterprise*.
- Luff, David. 2012. "Convergence: A buzzword to Remain?" In *Trade Governance in the Digital Age* edited by Mira Burri and Thomas Cottier. Cambridge University Press.
- Mangiaracina, Riccardo. 2009. "Payment Systems in the B2c eCommerce: Are They a Barrier for the Online Customer?" *Journal of Internet Banking and Commerce* 14(3).
- Mann, Catherine L., Sue E. Eckert. and Sarah Cleeland Knight. 2000. *Global Electronic Commerce*. Peterson Institute for International Economics.
- Mann, Ronald J. 2003. "Regulating Internet Payment Intermediaries." *Texas Law Review* 82(681).
- Manyika, James, et al. 2015. *Global Flows in a Digital Age*. McKinsey Global Institute.
- Mattoo, Aaditya. 2015. *Services Trade and Regulatory Cooperation*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.
- McKinsey Global Institute. 2011a. *Big Data: The Next Frontier for Innovation, Completion, and Productivity*.
- McKinsey Global Institute. 2011b. *Internet Matters: The Net's Sweeping Impact on Growth, Jobs and Prosperity*.
- Meijers, Huub. 2014. "Does the Internet Generate Economic Growth, International Trade, or Both?" *International Economics and Economic Policy* 11(1): 162.
- OECD. 2015. *Data Driven Innovation: Big Data for Growth and Well-Being*. Paris: OECD Publishing.
- OECD. 2013. "New Sources of Growth: Knowledge-Based Capital." *OECD Publishing Synthesis Report*.
- OECD. 2009. "Top Barriers and Drivers to SME Internationalization." *Report by the OECD Working Party on SME and Entrepreneurship*. Paris: OECD Publishing.
- Onyeiwu, S. 2002. "Inter-Country Variations in Digital Technology in Africa." *WIDER Paper 2002/72*, Helsinki: World Institute for Development Economic Research.
- Palmedo, Mike. 2015. "Firm Performance in Countries With & Without Open Copyright Exceptions." *Infojustice.org*, May 18. <http://infojustice.org/archives/34386>.
- PayPal. 2013. *Modern Spice Routes. The Cultural Impact and Economic Opportunity of Cross-Border Shopping*.
- Qiang, Christine Zhen-Wei, and Carlo M. Rossotto. 2009. "Economic Impacts of Broadband." In *Information and Communications for Development 2009*, 35-50. Washington, DC: World Bank.
- Rule, Colin, and Chittu Nagarajan. 2010. "Leveraging the Wisdom of Crowds: The eBay Community Court and the Future of Online Dispute Resolution." *ACResolution*, Winter.
- Ryan, Patrick S., Sarah Falvey, and Ronak Merchant. 2013. "When the Cloud Goes Local: The Global Problem with Data Localization." *Computer* 46(12): 54-59.
- Saslavsky, Daniel, and Ben Shepherd. 2012. "Facilitating International Production Networks." *World Bank Policy Research Working Paper* 6224.
- Statista Dossier. 2014. *Global Internet Usage 2014*.
- Terzia, N. 2011. "The Impact of E-Commerce on International Trade and Employment." *Procedia Social and Behavioral Sciences* 21: 745-753.
- Tsai, Chun-Wei et al. 2014. "Data Mining for Internet of Things: A Survey." *IEEE Communications Surveys & Tutorials* 16(1).
- UNCTAD. 2015. *Information Economy Report 2015*.
- USITC. 2014. "Digital Trade in the U.S. and Global Economies." *Part 2 Pub 4485 Investigation* 332-540.
- USITC. 2013a. "Digital Trade in the U.S. and Global Economies." *Part 1 Investigation* 332-531.
- USITC. 2013b. *Recent Trends in U.S. Services Trade 2013 Annual Report*.
- USITC. 2012. "The Information Technology Agreement. Advice and Information on the Proposed Expansion." *Part 1 Investigation* 332-532.
- USITC. 2010a. "Small and Medium-Sized Enterprises: Characteristics and Performance." *USITC Publication* 4189: 2-5.
- USITC. 2010b. "Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms." *USITC Publication* 4169: 3-19.
- USTR 2015. *The Digital Dozen*.
- Van Ark, Bart, and Abdul Erumban. 2015. "Productivity Brief 2015." *The Conference Board*.
- WHO. 2011. "Safety and Security on the Internet: The Challenges and Advances in Member States." *Global Observatory for e-Health Services* 4. Geneva: World Health Organization.
- World Bank. 2014. *Global Financial Development Report 2014: Financial Inclusion*. Washington, DC: World Bank.
- World Bank. 2013a. "Crowdfunding's Potential for the Developing World." *infoDev*, Finance and Private Sector Development Department. Washington, DC: World Bank.
- World Bank. 2013b. *Doing Business 2014: Understanding Regulations for Small and Medium-Sized Enterprises*. Washington, DC: World Bank.
- World Bank. 2012. *Connecting to Compete. Trade Logistics in the Global Economy*. Washington, DC: World Bank.
- World Economic Forum. 2013. *Enabling Trade: Valuing Growth Opportunities*. Geneva: World Economic Forum.
- YouTube. 2015. *Statistics*. <https://www.youtube.com/yt/press/statistics.html>.

Overview Paper and Think Pieces E15 Expert Group on the Digital Economy

Abdel Latif, Ahmed. 2015. *Revisiting the WTO Security Exceptions in a Globalized Digital Economy*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Ahmed, Usman, and Grant Aldonas. 2015. *Addressing Barriers to Digital Trade*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Ahmed, Usman, and Anupam Chander. 2015. *Information Goes Global: Protecting Privacy, Security and the New Economy in a World of Cross-border Data Flows*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Enders, Alice, and Amy Porges. 2015. *Cross-Border Data Flows and their Governance*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Kariyawasam, Rohan. 2015. *New WTO Trade Rules for Bits and Bytes?* E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Lund, Susan, and James Manyika. 2015. *How Digital Trade is Transforming Globalization*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Meltzer, Joshua P. 2015. *A New Digital Trade Agenda*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

The papers commissioned for the E15 Expert Group on the Digital Economy can be accessed at <http://e15initiative.org/publications/>.

Annex 1: Summary Table of Main Policy Options

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
Maximize and Update WTO rules both in the near and long term					
1. Implement and consider expanding the WTO Trade Facilitation Agreement (TFA) to support digital trade	Short-Long term	TFA will enter into force when two thirds of WTO membership will ratify it	TFA does not sufficiently take into account digitization and the specific characteristics of digital trade It fails to address the de minimis level of customs duties	Measures could be introduced in TFA to: <ul style="list-style-type: none"> – Require acceptance by customs of digital submission of customs forms – Reduce transaction costs for goods of small value 	WTO members
2. Make permanent the moratorium on customs duties on electronic transmissions.	Short Term	The WTO moratorium on imposing customs duties on electronic transmission of products has been renewed six times at WTO Ministerial Conferences	The moratorium has never been made permanent and legally binding	The moratorium should be made permanent as such a move would increase certainty amongst businesses and further support digital trade	WTO members
3. Task the WTO to set forth an ambitious E-Commerce Work Programme	Short Term	At the 2013 WTO Bali Ministerial, Members instructed the General Council to substantially invigorate the E-Commerce Work Programme The Nairobi Ministerial in December 2015 reaffirmed this programme	Little progress has been made in substantive discussions in this area	<ul style="list-style-type: none"> – Provide more specific direction on what the E-Commerce Work Programme should address – The WTO should consider establishing an external group of experts to recommend steps that could be taken to support digital trade – This could include establishing the WTO as a repository of information and insight about the digital economy and its relationship to the international trading system and agreements 	WTO members

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
4. WTO bodies such as the Trade Policy Review Mechanism or an outside group of experts should be tasked with evaluating the extent to which Members' digital-trade-related measures are consistent with their existing WTO commitments	Medium Term	WTO rules in a number of areas provide a strong foundation in support of the digital economy and digital trade	There are a number of areas where the coverage by WTO rules of the digital trade needs might be ambiguous or inadequate	A WTO working group or body could consider <ul style="list-style-type: none"> – How the needs of digital trade are covered under the WTO existing rule framework – Report on current digital protectionism measures around the world on an annual basis – Evaluate the extent to which members' digital-trade-related measures are consistent with their existing WTO commitments 	WTO members
5. Conclude expansion of the Information Technology Agreement (ITA) and increase its signatories	Short-Medium Term	The ITA is a plurilateral agreement involving 75 WTO members representing 97 percent of world trade in ICT products. It has reduced tariffs to zero on a range of ICT goods	The ITA needs to be updated to include IT goods developed over the last 15 year. However, progress agreeing on an expanded list of goods has been slow. Finally, on 24 July 2015, an expanded list of tariff lines was agreed that would be subject to duty elimination	<ul style="list-style-type: none"> – Countries should build on the conclusion of ITA-II agreed at the WTO ministerial in Nairobi – Expansion of the number of countries in ITA (India, Brazil, Mexico and South Africa are not members of this new expansion) should be a priority post-Nairobi. 	WTO members
6. Consider updating the WTO Telecoms Reference Paper to ensure competition over the Internet	Long Term	The WTO Telecoms Reference paper outlines a number of principles that are designed to regulate competition in telecommunications	The Reference Paper is not fully self-explanatory and has been litigated and used in the WTO context infrequently	WTO members should seek to clarify the application of the Reference Paper to ensure the preconditions for competition over the Internet as well as traditional networks and update where necessary	WTO members
7. Clarify the application of WTO members' GATS commitments to digital trade	Medium Term	The GATS commitments were originally made for basic telecommunications services	The convergence amongst basic and value added telecommunication services have rendered the scope of GATS commitments increasingly unclear	WTO members should clarify the extent that GATS liberalizes relevant sectors for digital trade and where further market access is needed	WTO members
Negotiate a Digital Trade Agreement					
8. Negotiate digital trade rules in TTIP, TiSA and conclude a plurilateral digital trade agreement at the WTO	Medium Term	Regulation around data can be a disguised restriction on trade	There is a need to develop greater consensus or a critical mass around core concepts regarding cross-border data flows	<ul style="list-style-type: none"> – The US and the EU in TTIP and the countries negotiating TiSA should build on new rules for digital trade such as those in TPP – Develop a specific agreement on digital trade to be negotiated at the WTO on a plurilateral basis, with consideration given to applying any such agreement on an MFN basis to all WTO members 	TTIP parties TiSA parties WTO members

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
9. Expand services market access commitments that implicate cross border data flows	Medium Term	The potential for the Internet to grow services trade makes addressing services trade barriers important	Reducing barriers to services is part of the WTO Doha Round but progress remains slow	TiSA, the TPP and the TTIP negotiations should be the immediate focus for expanding market access commitments for services trade	TTIP parties TiSA parties
10. Allow for the free flow of data across borders subject to an exceptions provision based on GATS Article XIV and a tightly-constrained national security exception	Medium Term	Currently there are only limited commitments specific to cross-border data flows, though restrictions on cross-border data flows may implicate a variety of WTO commitments	There is need for firm commitments to allow cross border data flows	More binding commitments are needed to ensure the free flow of data across borders subject to an exceptions provision based on GATS Article XIV and a tightly-constrained national security exception	WTO members
11. Commit to not require data localization	Medium Term	Trade agreements do not currently include a binding rule to not require data localization	Regulation around data can be a disguised restriction on trade with unintended consequences for employment growth and innovation	<ul style="list-style-type: none"> – Trade agreements should include firm commitments to not require data localisation – Governments, the private sector and NGOs should work to address the concerns and goals that motivate data localization laws 	TTIP parties TiSA parties
12. Include a balanced set of intellectual property (IP) rules and intermediary liability protections -- including enforcement measures, limitations and exceptions such as fair use, and appropriate protections from IP and non-IP intermediary liability	Medium Term	A balanced IP regime with effective enforcement measures, clear limitations and exceptions such as fair use, and appropriate protections from intermediary liability facilitates digital trade	The liability of Internet intermediaries such as ISPs and Internet platforms for international trade is an area that has yet to be addressed in the WTO. Some rules in this area are being developed in FTAs such as TPP	Include a balanced set of IP rules and intermediary liability protections in trade agreements	WTO members TTIP parties TiSA parties

Policy Options	Timescale	Current Status	Gap	Steps	Parties
Expand and deepen regulatory cooperation on digital trade issues					
13. Develop regulatory cooperation in areas affected by digital trade	Medium Term	The lack of regulatory cooperation in areas such as privacy, consumer protection, and transparency can hinder digital trade	Lower levels of privacy protection in one country can have consequences in trade and economic relations between nations	There is a need to develop regulatory cooperation in areas affected by digital trade	WTO members TTIP parties TiSA parties
14. Improve the regulation of digital payment services	Medium Term	Maximising the benefits of digital trade requires international payments systems that allow consumers to purchase goods and services online	There are multiple barriers to access international payments mechanisms which are a crucial underpinning of all forms of digital trade	To address these barriers, countries should consider: <ul style="list-style-type: none"> – New services commitments in trade agreements to remove restrictions of financial flows across borders – Developing regulations tailored for international payment providers that enables innovation consistent with the systemic risk from such entities compared with financial institutions – Commitment to the free flow of data so banks and credit card companies can verify and authorize payments – Countries should make transparent and easily accessible their requirements on banks and non-financial institutions for reporting suspected illegal activities such as money laundering and terrorist financing 	WTO members TTIP parties TiSA parties Private sector
15. Develop a dispute settlement mechanism for digital trade	Medium Term	The impact of the Internet on international trade raises new challenges for disputes settlement	There is currently no global dispute settlement mechanism capable of resolving digital trade disputes in a timely or cost-effective way	<ul style="list-style-type: none"> – Develop a dispute settlement mechanism that is quick, cost effective and globally available and enforceable – Public-private sector cooperation is needed in this area to develop an approach that is effective, responds to the needs of digital traders and that can be enforced globally 	Governments Private Sector

Policy Options	Timescale	Current Status	Gap	Steps	Parties
Governments, business, and NGOs working together to support digital trade					
16. Improve data gathering & metrics concerning digital trade	Medium Term	There is a need to Improve data gathering and metrics concerning digital trade	The lack of quantitative data on the extent of digital trade for economic growth and jobs remains an important limit on understanding the scale of the issue	<ul style="list-style-type: none"> – Government statistics agencies and international organizations such as the OECD and the World Bank should take the lead in collecting data on the digital economy and digital trade. – Business can also play a more active as the private sector often has access to aggregate data that can help shed light on the economic impact of digital trade 	Governments OECD World Bank Private sector
17. Enhance government/private sector cooperation on digital trade issues	Medium Term	The private sector plays a leading role in digital trade	A global framework on digital trade should effectively address to the needs of the private sector and digital traders	<p>The private sector can play a leading role in:</p> <ul style="list-style-type: none"> – Developing dispute settlement mechanisms for digital trade – Ensuring data security given its importance for consumer and business confidence in digital trade – Expanding acceptance globally of digital trade principles on the importance of the Internet and data flows for trade and investment 	Governments Private sector
18. Expand financing of digital infrastructure in developing countries	Medium-Long Term	The role of Internet access and ICTs as a development outcome is recognized in the draft post-2015 Sustainable Development Goals (SDGs). However, Many countries lack a robust digital infrastructure to be able to fully reap the benefits of digital trade	Accessing financial resources to build the digital infrastructure in developing countries remains challenging	<ul style="list-style-type: none"> – There is a need for innovative financing models for building out broadband and reducing the cost of access to Internet-enabled devices in developing countries – The World Bank should consider updating its Ease of Doing Business methodology to include in its Trading across Borders part, the ease of cross-border data flows – Governments business and NGOs should build on the importance of Internet access in the SDGs 	Donor countries ODA agencies World Bank Regional development banks

Annex 2: Members of the E15 Expert Group

Merit JANOW – Theme Leader

Dean, School of International and Public Affairs (SIPA),
Columbia University

Andrew CROSBY – Convener

Managing Director, Communications and Strategy,
International Centre for Trade and Sustainable Development
(ICTSD)

Joshua P. MELTZER – Co-convener

Senior Fellow in Global Economy and Development,
Brookings Institution

Usman AHMED

Head of Global Public Policy, PayPal

Grant D. ALDONAS

Principal Managing Director, Split Rock International

Nick ASHTON-HART

Executive Director, Internet & Digital Ecosystem Alliance
(IDEA)

Mira BURRI

Senior Research Fellow, World Trade Institute (WTI)

Anupam CHANDER

Professor of Law, University of California, Davis

Jake COLVIN

Vice President, National Foreign Trade Council (NFTC)

Dorothy DWOSKIN

Senior Director, Global Trade Policy and Strategy, Microsoft

Alice ENDERS

Senior Media Analyst, Enders Analysis

Nicholas HODAC

Executive Government and Regulatory Affairs, IBM Europe

Gary HORLICK

Attorney, Law Offices of Gary N. Horlick

Rohan KARIYAWASAM

Professor of Law, Anglia Ruskin University

Maki KUNIMATSU

Chief Analyst, Mitsubishi UFJ Research and Consulting

Hosuk LEE-MAKIYAMA

Director, European Centre for International Political Economy
(ECIPE)

James MANYIKA

Director (Senior Partner), McKinsey Global Institute,
McKinsey & Company

Ulf PEHRSSON

Vice President of Government and Industry Relations,
Ericsson

Amy PORGES

Principal, Law Offices of Amelia Porges PLLC

Magnus RENTZHOG

Senior Advisor, Swedish National Board of Trade
(Kommerskollegium)

Kati SUOMINEN

Founder and CEO, TradeUp Capital Fund

Rolf H. WEBER

Professor for Civil, Commercial and European Law,
University of Zurich Law School

David WELLER

Head of Global Trade Policy, Google

Mark WU

Assistant Professor of Law, Harvard Law School

Ahmed ABDEL LATIF – Group Manager

Senior Programme Manager, ICTSD

The experts all participated in their personal capacity. The views and recommendations expressed in the policy options paper are not attributable to any institution with which members of the E15 Expert Group are associated.



International Centre for Trade and Sustainable Development

The International Centre for Trade and Sustainable Development (ICTSD) is an independent think-and-do-tank, engaged in the provision of information, research and analysis, and policy and multistakeholder dialogue, as a not-for-profit organisation based in Geneva, Switzerland.

Established in 1996, ICTSD's mission is to ensure that trade and investment policy and frameworks advance sustainable development in the global economy.



COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

The World Economic Forum – committed to improving the state of the world – is the International Organization for Public-Private Cooperation.

The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas.



International Centre for Trade
and Sustainable Development
International Environment
House 2
Chemin de Balexert 7-9
1219 Châtelaine
Geneva
Switzerland

Phone: +41 22 917 84 92
Fax: +41 22 917 80 93
Email: info@ictsd.ch

www.ictsd.org

World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744

contact@weforum.org
www.weforum.org