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STRENGTHENING THE GLOBAL TRADE SYSTEM



Services, International Rulemaking, and the Digitization of Global Commerce

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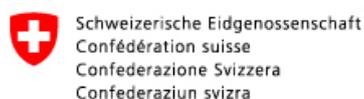
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ABSTRACT

Digital technology is significantly impacting the growth of modern services trade, and global trade more generally. Cross-border business and communications services have increased tremendously over the past few years as the Internet has lowered the cost of communicating and providing business services across borders. Nearly every type of cross-border flow now has a services-based “digital wrapper” that accompanies the flow and provides essential product information. This is the servicification of trade. Technology, in particular the Internet, is a driver of fundamental changes in traditional trade flows; these changes are bringing about tremendous economic benefits. Developing countries stand to gain the most from the digital economy. World Bank data demonstrates that a 10 percent increase in broadband penetration yielded an additional 1.21 percent in GDP growth in developed economies, while the same increase in emerging economies yielded an additional 1.38 percent in GDP growth. The economic growth driven by the digitization of global commerce, while significant is not the only positive benefit of the digital revolution. The lowering of trade frictions due to digital services is creating a new form of global commerce that is revolutionary in its inclusiveness; leading to tremendous social benefits. The Internet is democratizing access to the benefits of global trade and creating a parallel model for businesses to access the global market.

The General Agreement on Trade in Services framework is capable of handling many of these new developments. The principles of most-favoured nation and national treatment help to protect against trade barriers that might distort new digital marketplaces. But, the GATS could also use revisions in terms of the commitments that countries have made, as well as enhancing liberalization mechanisms for newer types of services. The digitization of the economy means that services negotiators should consider issues that go beyond the traditional concerns of market access for cross-border services.

Global platform services that have been created on top of the Internet provide marketing, enable trust, and facilitate transactions for even the smallest enterprises. In addition, the continued expansion of global logistics providers with a focus on the movement of packages around the world enables products to be delivered from anywhere in the world directly to an international consumer. The paper refers to the combination of the Internet, platform services, and logistics providers as the Global Empowerment Network. The Global Empowerment Network enables businesses of all sizes, including micro-businesses, to engage directly with customers around the world. It is not a replacement for traditional trade, but a parallel model by which smaller businesses can enjoy the benefits of the global market. Technology-enabled small businesses export at a higher rate, to more countries, and in a more inclusive marketplace than their offline counterparts regardless of where in the world they are physically located.

The paper offers three recommendations that combine technology and policy in an effort to best facilitate positive resolutions. They are improving encryption and reforming government bulk data collection practices; adopting dynamic performance privacy regulation and interoperable privacy regimes; and creating application programming interfaces and digitizing customs submission. Trade policymakers can help to achieve important regulatory goals and create an effective global economic environment by adopting these suggestions.

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LIST OF ABBREVIATIONS

API	application programming interface
CAD	computer-aided design
CRM	customer relations management
EU	European Union
GATS	General Agreement on Trade in Services
GDP	gross domestic product
MFN	most-favoured nation
MNCs	multinational corporations
MOOCs	massive open online courses
NSA	National Security Agency
NT	national treatment
SMEs	small and mid-sized enterprises
TLS	Transport Layer Security
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UPS	United Parcel Service
US	United States
USITC	United States International Trade Commission
WTO	World Trade Organization

INTRODUCTION

"We cannot solve our problems with the same thinking we used when we created them."

– Albert Einstein

Digital technology is significantly impacting the growth of modern services trade, and global trade more generally. Cross-border business and communications services have increased tremendously over the past few years as the Internet has lowered the cost of communicating and providing business services across borders. Services such as mobile applications, massive open online courses (MOOCs), and online customer relations management (CRM) have been created that simply did not exist when the General Agreement on Trade in Services (GATS) was ratified. Digital services have transformed traditional business organizations. Nearly every type of cross-border flow now has a services-based "digital wrapper" that accompanies the flow and provides essential product information (McKinsey Global Institute 2014). This is the servicification of trade.

Technology, in particular the Internet, is a driver of fundamental changes in traditional trade flows; these changes are bringing about tremendous economic benefits. McKinsey Global Institute has reported that 75 percent of the benefits of the Internet are captured by companies in more traditional industries (Pélissier du Rausas et al. 2011). The United States International Trade Commission (USITC) states that the combined effects of enhanced productivity and lower international trade costs in digitally intensive industries resulted in an estimated \$517.1 billion to \$710.7 billion increase (a 3.4 percent to 4.8 percent increase) in US gross domestic product (GDP). The USITC (2014) also found that US real wages were likely higher by 4.5 percent to 5 percent, and the effect on US total employment ranged from no change to an increase of 2.4 million full-time equivalents. Developing countries stand to gain the most from the digital economy. World Bank data demonstrates that a 10 percent increase in broadband penetration yielded an additional 1.21 percent in GDP growth in developed economies, while the same increase in emerging economies yielded an additional 1.38 percent in GDP growth (Qiang and Rossotto 2009).

The economic growth driven by the digitization of global commerce, while significant is not the only positive benefit of the digital revolution. The lowering of trade frictions due to digital services is creating a new form of global commerce that is revolutionary in its inclusiveness; leading to tremendous social benefits. Traditionally, only large businesses were able to engage in international trade on a global scale, in particular services trade, because of the high capital—and human—costs of finding customers, creating

trust, and delivering a service or product across borders. The Internet enables entrepreneurs and small businesses from every corner of the globe to instantly access a global consumer. For example, 50 percent of the trade on eBay Marketplaces in India comes from small businesses that are located in Tier I and Tier II cities; these are the cities outside major centres such as Delhi, Mumbai, and Chennai (Business Standard 2014). Moreover, in October 2013, Kiva (a micro-lending platform) celebrated its 1,000th loan from lenders around the world to entrepreneurs in Kenya; these micro-loans are often used by manufacturers to increase production and expand distribution facilities (Gunnarsdóttir 2013). The Internet is democratizing access to the benefits of global trade and creating a parallel model for businesses to access the global market.

The GATS framework is capable of handling many of these new developments. The principles of most-favoured nation and national treatment help to protect against trade barriers that might distort new digital marketplaces. But, the GATS could also use revisions in terms of the commitments that countries have made, as well as enhancing liberalization mechanisms for newer types of services. The digitization of the economy means that services negotiators should consider issues that go beyond the traditional concerns of market access for cross-border services. Barriers to the digital economy can come in the form of national government policies related to issues such as national security and consumer protection, and tariffs/taxes on physical products can inhibit cross-border services businesses in goods trade impacted by digitization. Moreover, the rapid nature by which digital technology is revolutionizing trade and opening it directly to technology-enabled small businesses requires revisiting rulemaking frameworks to assess where the new roadblocks to global trade are, and what policy solutions could be created to help address legitimate concerns and avoid trade restrictive consequences.

This paper will proceed in three parts. Part 1 will describe the expansion of commerce that is being caused by the digital revolution. Part 2 will highlight a few of the issues that trade policymakers are struggling with as a result of the impact of cross-border digital services and the Internet on commerce. Finally, Part 3 will offer some initial recommendations for trade policymakers on how using technology can help them to approach law-making in a rapidly changing global commercial landscape.

AN EXPANDING GLOBAL TRADE ENVIRONMENT

"We've arranged a civilization in which most crucial elements profoundly depend on science and technology."

– Carl Sagan

At eBay Inc., we have a front-row seat to the revolution that digital technologies are bringing to the arena of global trade. Since 1995, we have witnessed, and been a part of, the rise of a parallel model for accessing global markets. Traditionally, exporting on a global scale was a practice that could only be executed by the largest multinational corporations because of the difficulty in creating trust across long distances; the high fixed costs of market entry; the difficulty in acquiring new customers; and confusion over how to deal with the processes associated with the physical delivery of products and services across borders. Technological developments have helped to resolve many of these problems for even the smallest of businesses. The Internet provides instant global reach, with access to a consumer base of more than three billion people. Global platform services that have been created on top of the Internet provide marketing, enable trust, and facilitate transactions for even the smallest enterprises. Finally, the continued expansion of global logistics providers with a focus on the movement of packages around the world enables products to be delivered from anywhere in the world directly to an international consumer. We refer to the combination of the Internet, platform services, and logistics providers as the Global Empowerment Network.

The Global Empowerment Network enables businesses of all sizes, including micro-businesses, to engage directly with customers around the world. It is not a replacement for traditional trade, but a parallel model by which smaller

businesses can enjoy the benefits of the global market. Large businesses have traditionally been able to create scale and leverage that scale to reach out to global markets. The global value chain model of indirect participation in global business operations through incorporation in a traditional global business's value chain is what small and mid-sized enterprises (SMEs) have used to realize the benefits of global trade. As an alternative model, SMEs, and even micro-businesses, can now leverage the Internet, platform services, and logistics providers to gain instant scale and reach out to the same number of markets as large businesses. Services drive the Global Empowerment Network and have opened up a novel avenue for trade to a new class of traders.

Professor Marcelo Olarreaga of Geneva University conducted groundbreaking research in 2012 demonstrating the impact that the Internet, platform services, and logistics networks are having on SMEs around the world. He analyzes a dataset of eBay Marketplaces transactions looking at trade between 62 countries using data from 2004–2007. His research focuses on the issue of distance, which in trade economics literature has traditionally been viewed as the primary barrier inhibiting trade. Olarreaga finds that the elasticity of distance is 61 percent smaller online than offline (Lendle et al. 2012). He finds that other traditional trade costs such as differences in legal system, GDP per capita, and historical links also matter far less online than they do offline (Figure 1).

There are, however, certain trade costs that have a greater relative impact for smaller enterprises operating online than they do for the traditionally larger enterprises engaging in trade offline, in particular, common language and shipping costs. Machine translation is being rapidly improved, however, which could limit the costs associated with not sharing a common language with an end consumer (Berlin 2009). Offline trade has lower relative, per unit, shipping costs than online trade because of aggregation. Improvements in technology, logistics, and policy can help online trade ship more efficiently and move toward rivaling the effective shipping costs that offline trade faces. Finally, it is worth noting that free trade agreements have little effect

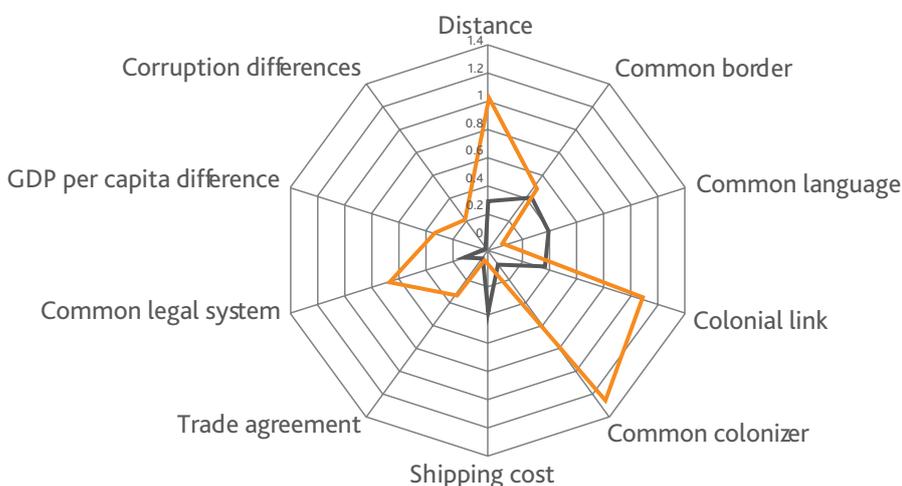


FIGURE 1:

Comparing Trade Costs Online and Offline (Using eBay data)

LEGEND:

- eBay
- Offline

on online trade; likely because they were not written with online trade in mind and there are few provisions or benefits that apply in particular to the trade patterns and methods of technology-enabled small businesses.

Over the past few years, our team has conducted research to identify the cross-border trade behaviors of businesses, in particular, micro-businesses that utilize our Marketplaces and PayPal platforms in a range of countries in different regions and at different levels of economic development. The result has been a series of reports that illustrate the socio-economic impacts and opportunities that result from this significant reduction in trade costs. Our research in Australia looking at data from 2012, for example, revealed some astounding findings. Only about 2 percent of traditional businesses in Australia export, whereas more than 75 percent of technology-enabled small businesses engage in exporting, according to our eBay Marketplaces platform data (Figure 2).

Traditional Australian exporters reach on average three different markets; SMEs using the Internet average 28 markets (Figure 3).

Moreover, the technology-enabled marketplace is far more inclusive than the traditional marketplace. Businesses selling using the Global Empowerment Network have access to the same amount of consumers whether those businesses have five or 500 employees. In the traditional Australian economy, the largest 10 percent of traditional exporters account for 98

percent of all sales abroad. The share in overall exports of the largest 10 percent of technology-enabled small businesses is just 46 percent (Figure 4).

Moreover, and perhaps more exciting, these trends hold true when we look at small businesses using the Global Empowerment Network to engage in exporting from the United States (US), Germany, France, the United Kingdom (UK), India, Indonesia, Thailand, South Africa, Jordan, Ukraine, Peru, and Chile (Figure 5).

Technology-enabled small businesses export at a higher rate, to more countries, and in a more inclusive marketplace than their offline counterparts regardless of where in the world they are physically located.

The impact of the Global Empowerment Network is best illustrated through specific case studies. Ryan French is a 24-year-old graduate from the University of Washington majoring in Applied Computational Math and Science. Ryan took a computer-aided design (CAD) class while he was in school and learned how to design parts in three dimensions. He noticed that his friends were playing videogames on their smartphones that were very difficult to operate with just a touch screen. So Ryan created the Gameklip, an attachment for Android phones that connects them to a DualShock3 controller, normally used for the PlayStation3. With the addition of a simple app, users can now play games on their smartphone with a "full console experience." Without the

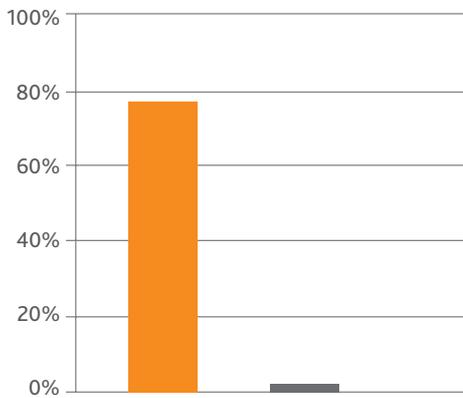


FIGURE 2:
Percentage of Firms that Engage in Exporting

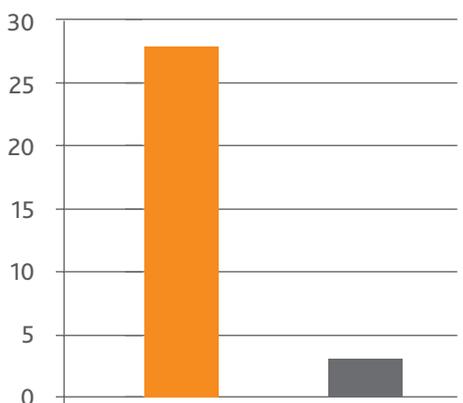


FIGURE 3:
Average Export Markets Reached



Internet, Ryan may have convinced his local retailer to carry the Gameklip and he may have sold a few. Because of the Internet, he was able to launch www.thegameklip.com from which he has sold the Gameklip to consumers from over 80 countries around the world (PayPal 2013a).

This trend of micro-multinational entrepreneurs is not limited to manufacturers and retailers that deliver physical goods supported by a service, but extends to pure service providers as well. Application developers are the archetype of the modern service provider. A 2014 study by the Association for Competitive Technology finds that 77 percent of apps are made by startups or small companies. A 2012 study by Visionmobile indicates that the beneficiaries of app development are spread around the world with less than 40 percent of global app revenue going to the US and less than 30 percent of global app developers located in the US (Pappas 2013). But app developers are not the only service providers that are benefiting from the Global Empowerment Network. Brad Jensen, Professor at Georgetown University's McDonough School of Business and Services, highlights how "accounting services, financial analysis, call-center services, architectural drafting, health-record transcription, and so on are taking advantage of the global information technology revolution" (2009).

Despite these tremendous developments, the Internet's transformation of small business trade is still in its infancy. United Nations Conference on Trade and Development (UNCTAD) data from 2014, looking at select developing economies, finds that there is a tremendous gap between large companies and small companies using the Internet. In Azerbaijan, for example, while about 80 percent of companies employing 49 people or more in 2012 were using the Internet, only around 40 percent of companies with between ten and 49 employees used it (UNCTAD 2014). Moreover, data from the Canadian Chamber of Commerce, which surveyed small businesses using technology to engage in commerce, demonstrates that while 96 percent of Canadian companies had a website they use for business purposes, only 27 percent were able to accept online payments (2010). Empowering these businesses through the Global Empowerment Network will result in tremendous economic and social benefits.

Policy would seem to be an ideal tool to use to help SMEs join the Network. Unfortunately, policymakers are not focused on the developmental aspects of the Internet, but instead forced to turn their attention to the new legal and regulatory challenges that it poses. These are important questions that must be resolved for the Internet to deliver on its true developmental potential.

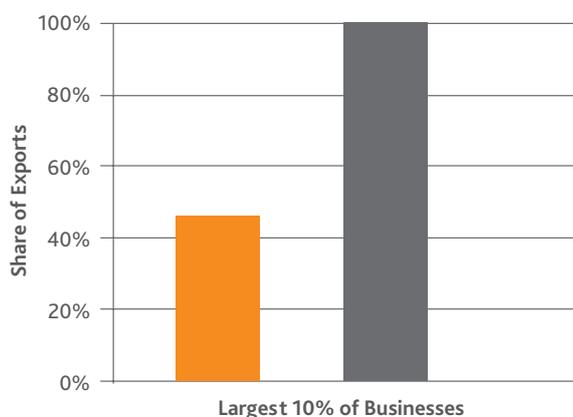


FIGURE 4:
Share of Exports by Largest Businesses

LEGEND:
■ AU Technology-Enabled Small Businesses Using eBay Marketplace
■ AU Traditional Businesses

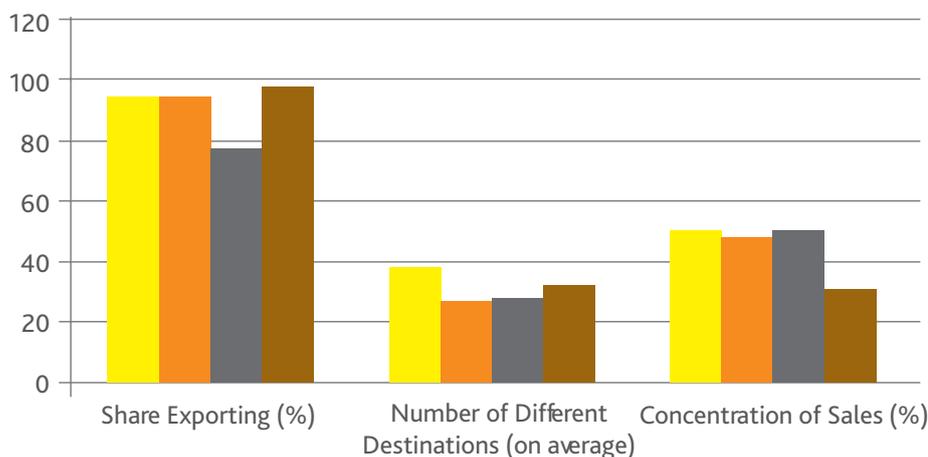


FIGURE 5:
Comparing Findings from Around the World

LEGEND:
■ US
■ DE, FR, UK
■ AUS
■ IN, ID, TH, ZA, JO, UA, PE, CL

POLICY ENVIRONMENT PRESSURES

"We build too many walls and not enough bridges."
– Sir Issac Newton

Policy has struggled to keep up with the tremendous developments that are occurring in industry, including the global emergence of cross-border digital services, Internet applications, and the rise of the Global Empowerment Network model. This gap has led to serious policy challenges, where legal regimes are proposed or created that would undermine business services that are increasingly central to the internal operations of most multinational businesses across sectors, as well as hamper the continued development of an inclusive digitized economy. These policy challenges exist at all three levels of the Global Empowerment Network—1) the Internet itself; 2) the platform services created on top of the Internet; and 3) the logistics providers—powered by and supported through services that carry out the delivery of physical products. These trade policy concerns are now relevant to businesses of all sizes and in nearly all nations, from the smallest micro-businesses to the largest traditional global businesses. Specific policy issues at each of these levels will be discussed in turn.

THE INTERNET, SURVEILLANCE, AND INTRANETS

The central reason for the Internet's ability to revolutionize services and non-services trade is that it is a decentralized network, using a standard set of open technical protocols, and it is governed by a multi-stakeholder process. This open architecture ensures that innovation can occur without permission from any commercial, non-commercial, or government entity. It is why a developer like Niklas Zennstrom can create a global telecommunications platform like Skype with over 300 million users. But, it is also why Parul Arora, a small jewellery manufacturer in India, can create a website like IndiaTrend, employ ten people, and reach the same amount of users. Professor Jonathan Zittrain of Harvard Law describes how the Internet's design encourages "generativity" (anyone is able to create a platform that enables further development on top of the network), but also holds inherent security and stability concerns because of the lack of top-down control (2008). Recent espionage and law enforcement initiatives carried out by governments around the world have demonstrated the security challenges associated with the Internet.

In June 2013, the *Guardian* and *Washington Post* published several articles that described leaked intelligence information confirming the National Security Agency's (NSA) PRISM program, which gathered user data directly from the servers of companies such as Microsoft, Yahoo, Google, and Facebook (Lee 2013). This leak confirmed the claims of a whistleblower named Mark Klien, who in 2006 told reporters that his job duties included connecting Internet backbone circuits, over which international transmissions travel, to a splitting cabinet in a secret room that he believed to be operated by the NSA (Ravets 2013). Further leaks in 2013 revealed that the UK was also involved in spying on monitoring Internet traffic by tapping fiber-optic cables going into and out of the country (Guardian 2013).

These revelations sparked tremendous domestic and international backlash. Several US companies announced that they would begin to encrypt communications to thwart government spying (Timber 2013). Germany raised the possibility of creating its own domestic Intranet that would not be connected to the global Internet (Abboud and Maushagen 2013). Brazil reportedly denied contracts to US services and goods suppliers, including Microsoft and Boeing, as a result of the NSA scandal (Masnick 2014; Miller 2014).

There would presumably be a claim under the market access provisions of the GATS that the US would be able to bring against nations that blocked US services following the PRISM revelations (Article XVI). But, the GATS contains a broad national security exception, which would presumably forestall any World Trade Organization (WTO) claims against the PRISM program and its effect on international trade (Article XIV). Trade and national security policy have tended to run along parallel tracks, but the Internet is causing those two paths to converge, resulting in tremendous uncertainty for businesses large and small.

SERVICES, PRIVACY, AND DATA LOCALIZATION

The commercial growth of modern services is based upon effective collection of and use of data. Spotify can make user music recommendations by comparing an individual user's listening habits with similarly situated users. United Parcel Service (UPS) can provide end-to-end tracking and expected time of arrival based on data about the package, the route (captured through the global positioning system [GPS]), the sender, and the receiver. Data is only going to continue to proliferate as the digitally enabled services economy and the Global Empowerment Network continue to grow. The massive influx in data creation and usage raises several questions for the traditional conception of privacy policy.

Every society has a different definition of, and view of, how to protect, privacy. Robert Post of Yale Law School states aptly, "Privacy is a value so complex, so entangled in competing and contradictory dimensions, so engorged with various and distinct meanings, that I sometimes despair whether it can

be usefully addressed at all" (2001). Whatever definition is selected, though, policymakers around the world recognize that technology is impacting traditional conceptions and regulation of privacy. When a service collects information about a user, combines that information with data from other users, and/or publicizes that information, there arguably could be privacy issues. Some policymakers have responded to these concerns with calls for foreign service provider localization to exercise more control over services that capture local citizen data.

Mandates for data localization come in various forms, including requirements to physically place a server in country, store local consumer data on such servers, and the most onerous being to process all data locally. A Russian law, signed by President Vladimir Putin in July 2014, requires that any entity collecting personal data on Russians must store that information in a database located in Russia (Zubarev and Baryshnikova 2014). Regulation 82/2012 in Indonesia requires electronic system operators for public services to locate data centres in the country, but the definition of "public services" remains unclear (Regulation 82 2012). Brazil's Marco Civil (Internet Bill of Rights) originally contained language that would have required all data on consumers be stored locally, but this language was eventually removed (Hill 2014).

A range of industries operating on a multinational scale, both in the digital services sector and multinational corporations that are major consumers of digital services, argue that these mandates come with high costs and limit the efficiency gains that are provided by the Internet. Professor Anupam Chander of UC-Davis Law School estimates that building a data center in Brazil costs \$60.9 million on average, while building one in Chile and the US costs \$51.2 million and \$43 million respectively (2014). Researchers at the European Centre for International Policy Economy, a think tank, estimate that data localization legislation in Brazil, China, the European Union (EU), India, Indonesia, Korea, and Vietnam could impact GDP from anywhere between -1% to -1.7% depending on the market (Bauer et al. 2014). The micro-businesses that utilize the Global Empowerment Network will face much higher costs as a result of these localization mandates. Finally, all these costs will be passed along to consumers.

These concerns, however, have not halted policymakers from considering measures that would require the localization of data by service providers. There would likely be a claim under the GATS to challenge these requirements as breaches of national treatment obligations, as the regulations sometimes explicitly target foreign services providers, and can have a disparate impact on foreign businesses (Article XVII). Yet, there is in the GATS a broad exception for domestic privacy regimes (Article XIV). Any trade case brought against a domestic privacy regime's impact on trade would require the challenging nation to demonstrate that the regime results in arbitrary or unjustifiable discrimination between countries where like conditions prevail, or is a disguised restriction on trade—a difficult bar to meet (Article XIV).

LOGISTICS, CUSTOMS, AND ANALOG REGIMES

The digitization of the global economy has not eliminated the need for physical products, but has expanded the production of, and access to, goods. Progressive Economy (a think tank focused on trade) in its *Lines of Light* white paper finds that low-value or "micro" US exports (e-retail tends to be these low-value shipments) increased by 103 percent between 2005 and 2010, more than twice the increase for all exports (Gresser 2012). Moreover, cross border e-commerce is expected to continue to grow; OC&C (2014) estimates the value of cross-border online trade in the US, Britain, Germany, the Nordics, the Netherlands, and France will grow from \$25 billion in 2013 to \$130 billion by 2020.

The Global Empowerment Network enables any manufacturer or retailer of physical products to engage directly with customers around the world. A physical product can now be marketed across borders using a service; paid for instantly using another service; and delivered across a border "encased" with a digital wrapper service that includes information about the product, the exporter, the importer, and enables global tracking (McKinsey Global Institute 2014).

Customs agencies that have been focused on security and trade facilitation of large shipping containers will now also need to turn their focus to this massive increase in small package cross border shipments. Digital trade is also distinct from traditional trade because of the players involved. Small businesses can now be global exporters and consumers can now be direct importers, engaging in commerce that looks more like traditional local commercial exchanges than traditional global trade activity. Small businesses, unsurprisingly, rarely have the technical capabilities to accurately comply with customs requirements, including processes designed for large enterprises contracting out to experts and agents. Moreover, consumers can now be required to fill out complicated customs forms and pay duties for small package shipments, a task for which consumers are ill prepared.

A lack of transparency in customs requirements can be a major burden for small businesses trading online (World Bank 2014). Complex border procedures raise the cost of sales and often confuse the consumer that is on the other side of these transactions. Many countries still utilize paper forms and antiquated processes that smaller entities and consumers cannot engage with. Finally, when cross-border delivery services are not harmonized or interoperable, business and consumers are left in the dark about the location of a product once it has crossed its first border.

The WTO Trade Facilitation Agreement represents an important first step in updating the rules for physical package movement to meet the needs of the digital age. Making customs rules and forms available online and encouraging electronic payments of duties are steps in the right direction

(WTO 2014). But, there is much more that can be done to modernize customs regimes around the world to meet the needs of the digital economy.

TECHNOLOGY AND POLICY WORKING TOGETHER TO RESOLVE ISSUES

“The government has a responsibility to protect society, to help maintain society. That’s why we have laws ... The rule of law creates a set of standards for our behavior.”

– Vint Cerf

There are many evangelists of technology who would argue that governments do not understand technology; as a result they create ineffective policy; and, therefore regulators should largely keep their hands off technology markets (Gibney 2012). These evangelists overstate the matter. Governments certainly can be ignorant of technology and create policies that are futile both in terms of achieving policy objectives and producing positive economic and social results. But, this is not a given. Governments must, however, search for solutions that leverage technology to better achieve important regulatory goals and avoid enshrining positions that will be outdated because of technological developments. It is not just technology companies that are at risk now as a result of bad policy choices, but also micro-businesses, small businesses, and non-services businesses.

Trade policymakers are well positioned to create effective policy to promote Internet-enabled global commerce and prevent Internet-related policies that would function as barriers to trade. Principles like MFN and NT are timeless despite technological changes that impact economic and social landscape. Moreover, the Internet is by its nature global, and national policy often struggles to create effective rules for the digital arena. Trade policymakers are focused on the global regime and therefore can understand the purview of digital issues.

There are three recommendations below that are relevant to each of the three tiers of issues discussed above. These recommendations combine technology and policy in an effort to best facilitate positive resolutions. Trade, services trade in particular, policymakers can help to achieve important regulatory goals and create an effective global economic environment by adopting these suggestions.

IMPROVE ENCRYPTION AND REFORM GOVERNMENT BULK DATA COLLECTION PRACTICES

In the wake of the NSA scandal, Brazil has announced that it plans to build an undersea cable between itself and Portugal to avoid surveillance from the US (Caulderwood 2014). This cable could thwart US efforts to directly access cables over which information passes, but information can still be captured through service providers as well as through routing that may occur around a single cable. Moreover, building a direct communications cable between Brazil and the EU removes the efficiency of a decentralized network. A more effective technological tool to prevent unauthorized inspection of Internet communication is to use encryption.

Financial information traveling over the Internet, for example, is often sent over the Transport Layer Security (TLS; a cryptographic protocol designed to provide communication security over the Internet). Google recently announced that user search data would also be sent over TLS (Timberg and Yang 2014). Surveillance reform policy, however, should not simply require that all incoming Internet communications be sent over TLS. Intelligence agencies are no doubt going to try and break TLS encryption to enable surveillance; and technical experts will establish new encryption techniques and protocols.

Trade policymakers are limited by the national security exception in the GATS, but can still engage in the surveillance debate by encouraging global encryption standards and best practices. Trade agreements can make reference to these concepts in e-commerce chapters and the WTO’s Electronic Commerce Steering Group could also engage in an inquiry on encryption.

Trade policymakers can also affect domestic policymaking on surveillance. The goal behind any legislation related to Internet surveillance ought to be to prevent governments from engaging in indiscriminate and generalized monitoring of a wide swath of the global population. There is a great deal of precedent for law and policy playing this role. The Fourth Amendment to the US Constitution was written to codify a 1763 English case called *Wilkes v. Wood*, wherein a citizen was able to successfully challenge a government search of his effects because the government had searched all the houses near his house in a dragnet search (US Senate 1995). Bulk collection of search data is a similar type of dragnet search. And, reforms to prevent against these types of dragnets should be enshrined in law.

These reforms should be agreed to on an international basis, as any nation that adopts such a practice unilaterally will feel threatened by other nations utilizing bulk surveillance. Trade policymakers could be important players in ensuring that such an international treaty on bulk collection is agreed

to. They understand the tremendous economic and social benefits that the global open Internet creates and should support foreign affairs diplomats in efforts to create an effective legal framework to combat bulk surveillance. The existing web of bilateral and multilateral trade agreements and institutions also provides a potential locus for those talks and agreements in a context that highlights the mutual economic benefits of open connectivity.

ADOPT DYNAMIC PERFORMANCE PRIVACY REGULATION AND INTEROPERABLE PRIVACY REGIMES

Privacy regimes around the world are divergent in their focus and implementation. This reflects the different cultural understandings of privacy. Standard methods for creating regulatory policy will not be effective in a technological landscape that is evolving rapidly with a principle like privacy. A modern approach to drafting and implementing privacy regulation that utilizes lessons learned from modern technological developments and applies them to governance is needed to address concerns with privacy. Modern organizations utilize a four-step process to resolve problems—1) set performance metrics; 2) gather data and analyze; 3) iterate; and 4) collaborate. A similar model can be used by policymakers to tackle the issue of privacy. We refer to this model as Dynamic Performance Standards for regulation (see PayPal 2013b).

The goal of privacy regulation should be to protect consumers' sense of dignity, and entities that collect data should be regulated based on how well they achieve this goal. Data should be gathered to determine what consumers in a particular jurisdiction feel harms their dignity. This data should be gathered on a regular basis and assumptions should be adjusted based on findings. Governments should work with data collectors and consumer groups to ensure that requirements are both technically feasible and effective at protecting privacy. Finally, individual governments should also collaborate to create an interoperable privacy regime.

An international treaty on privacy is unlikely because of the divergent cultural perspectives on the concept and its application. But, as individual governments are working through privacy regimes, they should work through trade policymakers with regulatory counterparts from other nations to create the greatest degree of interoperability possible. Basic goals such as defining terms in a similar manner, lining up regulatory review mechanisms, and aligning on enforcement penalties can go a long way to creating a more streamlined global privacy landscape. The US-EU Safe-Harbor Agreement presents a model of this concept in practice. Moreover, the Asia-Pacific Economic Cooperative's Privacy Framework represents another success of trade policymakers playing a role in affecting the international privacy regime.

Trade negotiators around the world are currently considering the issue of cross-border data flows in light of data localization policies. This issue is inherently tied up in issues of privacy. Trade negotiators should encourage their colleagues in regulatory agencies focused on privacy to adopt a model based on Dynamic Performance Standards and then take that model through trade policy, along with privacy regulators from other nations, to attempt to create a more interoperable regime.

CREATE APPLICATION PROGRAMMING INTERFACES AND DIGITIZE CUSTOMS SUBMISSION

Customs forms are often difficult to parse and exist in a paper-only form. These paper forms are also generally only accessible from a specific physical location and can only be submitted to a specific physical location. This format may have worked when there were only a small number of entities that imported and exported. But, as services open up global trade to every manufacturer, retailer, and consumer, it is essential that this system be updated. Customs officials can learn a great deal from the development of Internet and Web technologies.

The original World Wide Web (the system for linking hypertext documents that are accessed over the Internet) was filled with websites that were largely static text and text links created by the website developer. The web was transformed, however, when developers began using application programming interfaces (APIs; software intermediaries that made it possible for applications to interact with each other and share data) instead of just static text. Google Maps is a perfect example of an API. Any developer can download the Google Maps API and embed it on their website; the website will now have a maps functionality that is dynamic and will update instantly as Google updates its service.

A similar type of API ought to be created for customs systems. Any entity should be able to download the customs API and have an instant connection to a simple tool that provides export and import instructions for goods, calculates duties, collects relevant product information, and allows for online submission to expedite the security and processing of the product. Electronic payments should also be accepted through the API to further expedite the process. Currently, a multitude of trade experts and consulting firms are required to engage with the customs process. The creation of a customs API could create massive efficiencies by removing these intermediaries and would also improve security by providing a direct connection between the trading entities and the government.

Several free trade agreements have included language on paperless trading. These provisions generally stipulate as

the general rule that the parties shall accept the electronic format of trade administration documents as the legal equivalent of paper documents. This is an important first step in digitizing the customs process and making it accessible to entities of all sizes. Further, multilateral efforts to create national "single windows" for customs and border clearance, while a positive step, should be focused going forward on "digital single windows," "interoperable single windows," and eventually fully "harmonized digital single windows" where submission of data in one online format would apply to many countries. Such efforts would likely use customs APIs. Harmonizing the requirements of these APIs through trade agreements, and then prompt implementation, would create tremendous efficiencies for traders and would likely increase security because of the reduction of intermediaries. Finally, customs APIs could be greatly beneficial to the micro-businesses that utilize the Global Empowerment Network.

CONCLUSION

The Internet, global services platforms, and logistics providers are now ubiquitous; they are an integral part of global business operations, for entities both large and small. There are tremendous policy challenges that underlie every facet of modern trade. Technology is the reason that these policy issues exist, but it can also be part of the resolution of these concerns. Trade policymakers should work closely with technical experts within government, academia, and industry to create policies that are closely intertwined with technological developments. Moreover, trade policymakers must focus on the goals they are seeking to achieve and avoid enshrining principles that stem innovation. Finally, trade policymakers must, of course, work together across national borders because the Internet is a global network.

The benefits of resolving these policy issues are tremendous. Traditional micro-businesses are using the Global Empowerment Network to engage in trade for the first time in history. This brings the economic gains of trade to a new class of businesses; it creates a more inclusive global economy. This is a purpose that should drive trade policymakers to adopt new frameworks in an effort to remove barriers and create an open global digital economy.

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