



# AID FOR TRADE IN ASIA AND THE PACIFIC

THINKING FORWARD ABOUT TRADE  
COSTS AND THE DIGITAL ECONOMY

**DRAFT**

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# Contents

<b>Figures and Boxes</b>	iv
<b>Abbreviations</b>	v
<b>Acknowledgement</b>	viii
<b>Executive Summary</b>	ix
<b>1. Regional Trends</b>	1
1.1 Role in World Trade	1
1.2 Aid for Trade Disbursements	3
1.3 Trade Costs	4
1.4 Opportunities for Inclusiveness	6
<b>2. New Opportunities to Manage Trade Costs: Digital Trade and E-Commerce</b>	9
2.1 E-commerce Intensity	8
2.2 E-commerce Readiness	9
2.3 SME Internationalization	13
2.4 Unlocking the Potential of Women-Led Firms	14
<b>3. Asia: Moving in the Right Direction</b>	22
3.1 Doing Business is Getting Easier	22
3.2 Logistics Performance is Uneven	24
3.3 Aid for Trade Profile: Transport Infrastructure Focus	30
3.4 Leapfrogging Trade Costs: The Promise of 3D Printing	30
<b>4. Pacific: Dynamics in a High-Cost Region</b>	35
4.1 High Trade Dependence	35
4.2 Trade Costs Falling, But Finance Remains a Constraint	36
4.3 Aid for Trade Profile: Building the Connectivity Backbone	36
4.4 Opportunities in E-Commerce	36
4.5 Niche Products	36

# Figures and Boxes

## Figures

1	Share of Asia and the Pacific in Global Imports and Exports, 2001-2003 vs. 2011-2013	1
2	Regional Contribution to Value Added—Selected Regions, 2012	2
3	Export Sophistication Index by Subregion, 1980 vs. 2006	2
4	Export Concentration by Subregion, 1980 vs. 2010	2
5	Aid for Trade Per Capita Disbursements—Selected Economies, 2011-2013	3
6	Aid for Trade Disbursements in Asia and the Pacific by Sector	3
7	Distance to Best-Performer Frontier in Trading Across Borders by Subregion, 2013	4
8a	Time to Export and Import by Region, 2013	4
8b	Number of Documents to Export and Import by Subregion, 2013	5
9	Global Business-to-Consumer E-Commerce Marketplace by Region, 2012-2017	8
10	Cross-Border E-Commerce Flows in Selected Economies, 2013 vs. 2018	8
11	Internet Users in Asia and the Pacific (per 100 people) by Subregion, 2000-2013	9
12	Share of Firms that Use their Own Website and Email with Clients by Subregion, 2014	10
13	Quality of ICT Infrastructure and Business Usage from ICT—Selected Economies, 2014	11
14	Average Shipping Time for Parcels to Various Destinations—Selected Regions, 2013-2014	12
15	Small and Medium-Sized Enterprises' Sales Reach by Market and Level of Web Use	14
16	Women's Ownership and Participation in Enterprises by Region	14
17	Internet Use by Women Business Owners in Central Asia—Selected Economies, 2014	15
18	Firms' Export Participation by Subregion and Gender of Firm Owner, 2009-2014	15
19	Share of Firms in Asia and the Pacific that Use E-mail with Clients and Suppliers by Subregion and Gender, 2014	16
20	Days to Import in Asia and the Pacific by Economy, 2006 vs. 2015	19
21	Time to Export and Import in Asia and the Pacific by Subregion, 2015	19
22	Distance to Best-Performer Frontier in Trading Across Borders by Economy, 2006 vs. 2015	20
23	Logistics Performance Index Components by Subregion, 2014	21
24	Quality and Efficiency of Infrastructure and Border Administration by Subregion, 2013-2014	21
25	Liner Shipping Connectivity Index (0-157.1) by Region, 2014	22
26	Aid for Trade Disbursements—South Asia	22
27	Aid for Trade Disbursements—Southeast Asia	22
28	Share of Firms Using Materials Inputs and/or Supplies of Foreign Origin and Share of Total Inputs that are of Foreign Origin—Selected Pacific Economies	26
29	Pacific Trade Balance as % of Subregional GDP, 2002-2013	26
30	Number of Days to Export in the Pacific—Selected Economies, 2006 vs. 2015	27
31	Costs to Export a Container in the Pacific—Selected Economies, 2006 vs. 2015	27
32	Logistics Performance Index Components in Fiji, 2010-2014	28
33	Aid for Trade Disbursements in the Pacific	29
34	Internet Users in the Pacific (per 100 people) by Economy, 2013	31
35	Fixed Broadband Internet Subscribers (per 100 people) in the Pacific by Economy, 2013	31
36	Mobile Price as % of Per Capita Income, 2008 vs. 2014	31
37	Entry-level Fixed and Mobile Broadband Prices (1GB Minimum Data) as % of Per Capita Income, 2008 vs. 2014	32

## Figures and Boxes continued

38	Share of Firms that Use their Own Website and that Use E-Mail with Clients and Suppliers —Selected Pacific Economies, 2014	32
39	Main Challenges to Increasing Sales Online—Pacific Exporters, 2015	33

### Boxes

1	Proactive Policies to Lower Trade Costs in Georgia	1
2	Aid for Trade Impact in Asia and the Pacific	5
3	ADB Information and Communication Technology Projects, 2000-2013	7
4	India's E-Commerce Revolution: Catalyst for Entrepreneurship and Trade	9
5	How Woman Owned Business Exports Online from Samoa	10
6	ASEAN's Pioneering Regional E-Commerce Framework	11
7	Using DHL for Exports in Papua New Guinea	13
8	E-Payments in Asia and the Pacific	13
9	Challenges to Women Entrepreneurs in Pakistan	14
10	Opportunities for Women Entrepreneurs Online Microwork	16
11	Reducing Trade Costs in Afghanistan	19
12	Networking Matters for Women-led Firms	20
13	South Asia Corridor Development	21
14	Identifying Transport Bottlenecks in Central Asia Regional Economic Cooperation	23
15	Quotes from Exporters on Trade Finance Limitations	28
16	Transport Infrastructure in Fiji	29
17	Business Advisory Services in the Pacific	30
18	Selected ADB Submarine Cable Projects in the Pacific	30
19	Firms Focus on Adding Value	33
20	Upskilling as a Feature of Community-Based Development	34
21	Identifying Customers from a Firm in Cook Islands	34
22	Promoting Agribusiness in Samoa	35

# Abbreviations

ADB	Asian Development Bank
AfT	aid for trade
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
A\$	Australian dollars
B2B	business-to-business
B2C	business-to-Consumer
CAREC	Central Asia Regional Economic Cooperation
DFAT	[Government of Australia] Department of Foreign Affairs and Trade
E-commerce	electronic commerce
E-mail	electronic mail
E-payments	electronic payments
FSM	Federated States of Micronesia
GVC	global value chains
GDP	gross domestic product
HACCP	hazard analysis and critical control points
HKG	Hong Kong, China
IACT	Increasing Agricultural Commodity Trade [program]
ICT	information and communications technology
W	Korean won
Lao PDR	Lao People's Democratic Republic
LPI	logistics performance index
OECD	Organization for Economic Co-operation and Development
PNG	Papua New Guinea
PRC	People's Republic of China
KOR	Republic of Korea
SMEs	small and medium-sized enterprises
SIDS	Small Island Developing States
SASEC	South Asia Subregional Economic Cooperation
TAP	Taipei, China
3D	three-dimension
TFP	trade finance program
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
US	United States
WTO	World Trade Organization

# Executive Summary

Interesting things have been happening in Asia and the Pacific since the last regional review of Aid for Trade (AfT). In this report we highlight some of these emerging trends and explore them in the context of the 2015 theme of reducing trade costs for inclusive, sustainable growth.

AfT flows have increased each year since 2006 in the region. And while regional aggregate trade costs continue to fall, many subregions continue to struggle with trade costs that are substantially higher than the global average. Trade performance in the Pacific in particular has been undermined by its geography.

At the same time, the relevance of different categories of trade costs is changing. The growing number of firms that are trading online face different logistics and shipping issues than traditional traders. The impetus to address these issues comes from evidence that e-commerce opens new opportunities for women-led and small and medium-size enterprises to engage in trade. This report takes stock of how AfT has contributed to these trends and considers some constructive ways to move forward, continue to address trade costs in Asia and the Pacific.

This report reaches six main conclusions:

- Economies in Asia and the Pacific have integrated forcefully in the world economy over the past few decades. In 2011–2013, trade in goods and services equaled 117% of regional gross domestic product (GDP). Intra-regional trade makes up more than one-half of the region's total trade, and is propelled by the integration of East and Southeast Asian economies in regional value chains.
- AfT flows to Asia and the Pacific improved in 2013. The region was the second largest recipient of global AfT dollars at \$14.9 billion of total disbursements. Across the region, flows have gone mainly to transport, energy, and agriculture. This focus on economic infrastructure has important results. Each \$1 spent is estimated to increase exports by \$1.33.
- Many trade cost indicators have improved significantly across the region over the past decade, particularly for Central Asia and Southeast Asia. Small changes can have large impacts. It has been estimated that a 10% reduction in the number of documents required by the importer will increase trade by 11%.
- Pacific economies are highly dependent on trade, despite having some of the highest trade costs in the world. Among all subregions, the Pacific (along with South Asia) has made the greatest improvements in the Logistics Performance Index from 2007–2014. Recent exporter surveys reveal a movement toward niche products and the leveraging of e-commerce as a means of overcoming distance and cost.
- Emerging digital technologies, such as e-commerce, offer an entirely new set of opportunities for economies in

the region to grow through trade. Transactions in Asia and the Pacific are growing at an average of 50% annually and make up nearly half of global transactions. Information and communications technology (ICT) infrastructure is the backbone of this growth. But an enabling regulatory environment is critical for further expansion.

- Women-led businesses are growing in number unlocking what is still a latent source of job-creation and economic growth. While women-owned firms are only 18% of all firms in the region, women-led firms are just as likely to export as male-led firms, and are in fact are more likely to export in some subregions. ICT infrastructure and trade facilitation addresses some of the key constraints to women in business including high search costs, time poverty, and limited access to and learning opportunities.

This report is divided into four chapters. The introduction sets the stage by describing some general trends in trade costs, AfT and inclusiveness. Chapter two introduces the idea and opportunities of e-commerce for the region and ways in which AfT can advance access to and use of digital technologies to propel trade. Chapter three analyzes trends in trade costs in Central, East, South, and Southeast Asia, while chapter four offers a more robust, in-depth case study of AfT and trade



## CHAPTER 1

# Regional Trends in Aid for Trade

As economies in Asia and the Pacific have engaged more substantially in the global economy, AfT flows have adjusted to both reflect and promote this dynamism. Each of the subregions has a different character—East Asia is highly integrated into world trade flows, while the Pacific economies trade more heavily with nearby Australia and New Zealand. Donor intensity also varies by subregion, perhaps contributing to the unique characteristics of flows. Yet in the face of this diversity, for all subregions, we see trade costs declining over the review period. We also see an increasing movement of goods in the digital space.

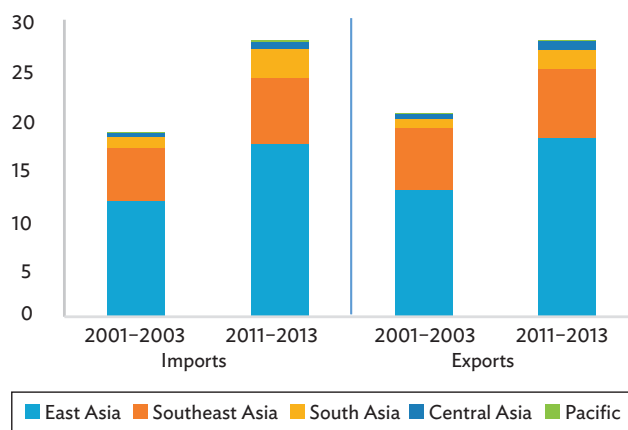
In this introduction, we offer a picture of how trade and AfT flows have trended in Asia and the Pacific over recent years. We highlight some areas where significant change has occurred—value chain participation, export diversification, and aid for trade facilitation. And we offer insight into others where change is needed—integration of Central Asia into value chains, a better understanding of the contribution of AfT to inclusive growth, and a clearer focus on the trade policy environment, for example.

## 1.1 Role in World Trade

Economies in Asia and the Pacific have integrated forcefully in the world economy over the past few decades, growing interdependent with other world markets. In 2011–2013, the regional average for trade as a percent of GDP was 117%. East Asian economies are the most integrated, with trade equal to 180% of GDP; South Asian economies are less dependent on trade, with trade making up 88% of the subregional economy.<sup>1</sup>

As trade has grown in importance in the region, the region has grown in importance in world trade. In 2013, economies in Asia and the Pacific made up 28% of world imports and exports (**Figure 1**). The People's Republic of China (PRC) drove much of the trend. Becoming Asia and the Pacific's largest exporter in 2004, in 2013 the PRC became the largest exporter in the world, accounting for 12% of world exports. Southeast Asia's share in world trade has also grown over the past decade; in 2013, it accounted for 6.6% of world imports and 7% of world exports.

**Figure 1: Share of Asia and the Pacific in Global Imports and Exports, 2001–2003 vs. 2011–2013 (%)**



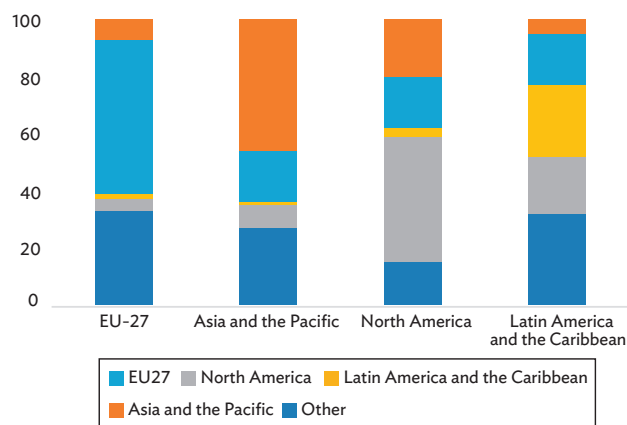
Source: International Labor Organization. <http://www.ilo.org> (accessed 10 June 2015).

In 2013, intraregional trade in the Asia and the Pacific rose to 52% of overall trade. This is in part due to the integration of East and Southeast Asian economies in global value chains (GVCs). In Asia and the Pacific,

<sup>1</sup> In Central Asia, trade makes up 79% of regional GDP, in the Pacific 113%, and in Southeast Asia 145%.

foreign value-added in exports is among the highest in the world. On average, 47% of the foreign value-added in Asia and the Pacific stems from within the region, illustrating the intricate intraregional production linkages crisscrossing particularly East and Southeast Asia (Figure 2).<sup>2</sup> GVC participation has also been a growth driver—industries in which GVC trade doubled during 1995–2008 saw 19% higher output growth than other industries.<sup>3</sup>

Figure 2: Regional Contribution to Value Added in 2012, Selected Regions (%)



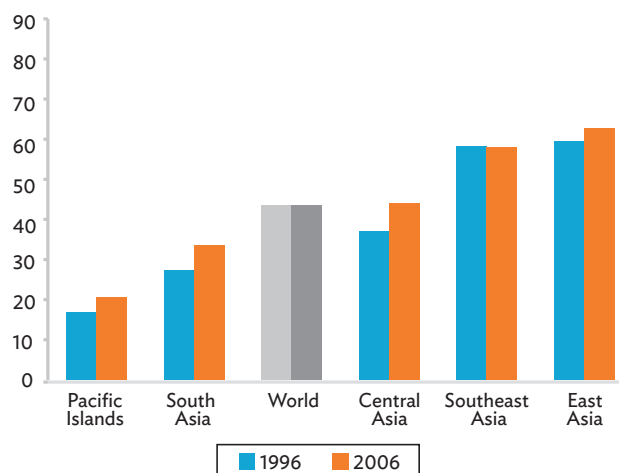
Source: J. Blyde, A. Estevadeordal, and K. Suominen. 2013. *Are Global Value Chains Really Global? Policies to Accelerate Countries' Access to International Production Networks*.

As countries in Asia and the Pacific have globalized, they have also upgraded and diversified their exports, and moved into more sophisticated products (Figure 3). East Asia and Southeast Asia have relatively diversified export baskets, dominated by manufactured products. The export baskets of Central Asian and Pacific economies have also become less concentrated, although they remain based on primary products (Figure 4). Within South Asia, India and Sri Lanka too have diversified.

The region's trade growth, engagement with GVCs, and export diversification are the result of several factors—liberalization of trade and investment regimes, formation of free trade agreements both intraregional and with

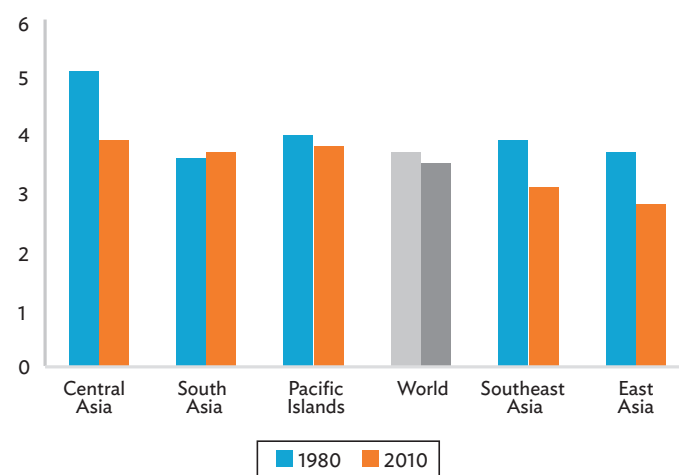
extra-regional partners, and systematic export promotion policies. These are supported by more general economic growth, industrialization and development. And all these factors have been supported by AfT.

Figure 3: Export Sophistication Index by Subregion, 1980 vs. 2006



Source: International Labor Organization. <http://www.ilo.org> (accessed 10 June 2015).

Figure 4: Export Concentration by Subregion, 1980 vs. 2010 (%)



Source: International Monetary Fund. <http://www.imf.org> (accessed 10 June 2015).

<sup>2</sup> It must be noted that the region's poorer countries with more limited technologies and less skilled labor tend to occupy the relatively low-skilled, low-value segment of the value chain and struggle to attract the investments required for moving up the chain.

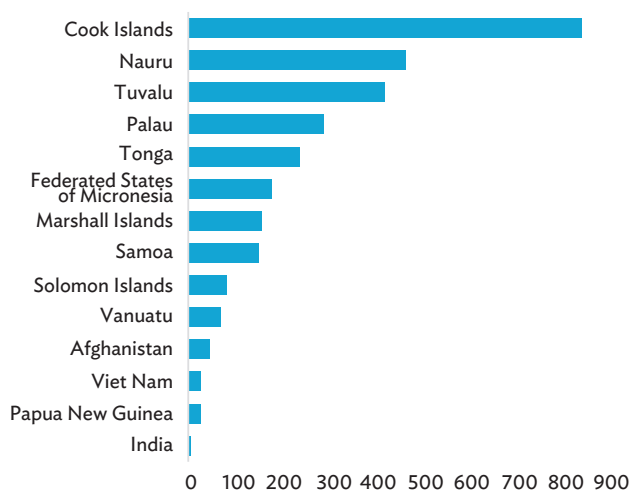
<sup>3</sup> Asian Development Bank. 2014. *Asian Development Outlook 2014 Update: Asia in Global Value Chains*.

## 1.2 Aid for Trade Disbursements

Globally, AfT disbursements have been growing over the past decade, from \$14.7 billion in 2004 to \$33.6 billion in 2011 and further to \$41.2 billion in 2013. In 2013, Asia and the Pacific was the second largest regional recipient of AfT dollars at \$14.9 billion of total disbursements. Within Asia and the Pacific, the top country recipients in 2013 were Viet Nam (\$2.6 billion), India (\$2.1 billion), Afghanistan (\$1.2 billion), and Bangladesh (\$903 billion). Most AfT funding was programmed at the national level, though some assistance was disbursed regionally, including \$2 billion to the Pacific and \$9 billion to Central Asia.

On a per capita basis, Pacific economies are the largest AfT recipients in the world. In 2011-2013, the Cook Islands received \$857 of AfT per capita, Nauru received \$474, and Tuvalu received \$429. These are all well above other major recipients of AfT such as Afghanistan (\$47 per capita) and Viet Nam (\$28) (Figure 5).

**Figure 5: Aid for Trade Per Capita Disbursements in Selected Economies, 2011-2013 (\$)**

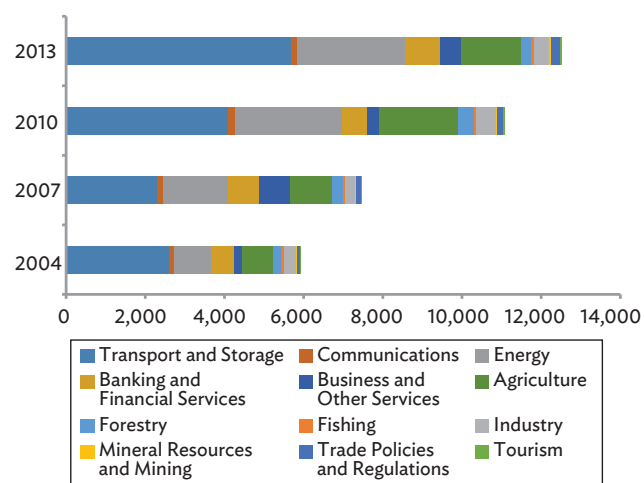


Source: OECD. Aid for Trade Statistics. <http://www.oecd.org/> (accessed 10 June 2015).

Disaggregating AfT by Organization for Economic Co-operation and Development (OECD) categories shows that trade-related infrastructure and technical assistance for trade received the most funding.<sup>4</sup> Globally, two infrastructure sectors—energy, and transport and storage—have consistently made up the bulk of AfT disbursements. Regional flows in Asia and the Pacific mirror global patterns. AfT is heavily targeted to transport and storage (46% of the total in 2013), communications (23%), energy (11%), and banking (7%) (Figure 6). In every subregion, transport and storage is the main sectoral target.<sup>5</sup>

Of particular note, disbursements in trade facilitation in Asia and the Pacific doubled from \$77.3 million in 2012 to \$155.3 million in 2013.<sup>6</sup> Myanmar, Afghanistan, Pakistan, and Viet Nam were the largest recipients. Among all donors, the largest supported projects included broad sector support in Myanmar; customs reform in Afghanistan; regional trade facilitation, agriculture and food security in Pakistan; and regional integration in South Asia. Trade facilitation projects aim to help economic actors make use of economic infrastructure (Box 1).

**Figure 6: Aid for Trade Disbursements in Asia and the Pacific by Sector (\$ million)**



Source: OECD. Aid for Trade Statistics. <http://www.oecd.org/> (accessed 10 June 2015).

<sup>4</sup> OECD disaggregates AfT into five categories: technical assistance for trade policy and regulations, trade-related infrastructure, building of productive capacity, trade-related adjustment, and other trade related needs.

<sup>5</sup> This in part reflects the cost of infrastructure projects in comparison with other types of AfT spending.

<sup>6</sup> Trade Facilitation here is measured as a subcategory of technical assistance for trade policy and regulations.

### Box 1: Proactive Policies to Lower Trade Costs in Georgia

Georgia has made impressive gains in trade facilitation, soaring through the ranks in the World Bank's Doing Business database. Following its trade liberalization started in 2002, in 2006 Georgia enacted a new customs code that simplified the customs clearance process and better aligned it with international practices. In 2009, documentation requirements for imports and exports were simplified. And in 2012 the government introduced customs clearance zones. This progressive, step-by-step reform resulted in a significant reduction in time and costs behind the border and at the border trade procedures.

Georgia has a number of tools and programs in place to expedite shipments between Georgia and Central Asian countries on Central Asia Regional Economic Cooperation Corridor, such as such as a risk management strategy that involves physical inspection of random vehicles at border crossing points, and the Golden List program, an Authorized Economic Operator program that involves 175 companies able to fast track through customs. This risk-based, data-driven customs management approach is a forward looking policy and places Georgia well in the era of e-commerce and small parcels.

Source: ADB.

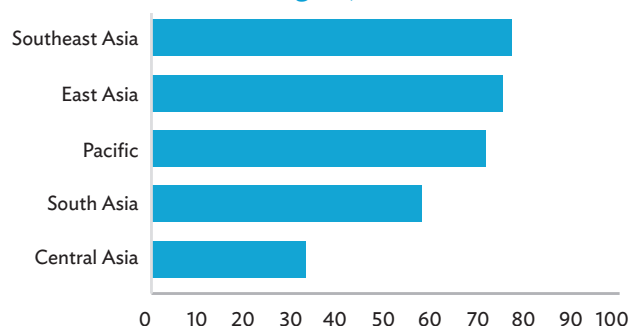
Donor intensity in Asia and the Pacific varies by subregion. Overall, Japan is the largest AfT donor in Asia and the Pacific, with \$9 billion in commitments in 2013, followed by the World Bank and ADB. Subregionally, the United States (US) is the largest AfT donor in Central Asia with the World Bank, ADB, and Japan; Germany and France play an important role in East Asia; the World Bank and ADB are dominant in South Asia and Southeast Asia; and World Bank, Japan, and Australia play an important role in the Pacific.

## 1.3 Trade Costs

Reducing cross-border trade costs is one of the key concepts underlying AfT and is the theme of the WTO's 5<sup>th</sup> Global Review of Aid for Trade.<sup>7</sup> This focus is particularly important for economies in Asia and the Pacific. Trade costs continue to pose a major hurdle for the region's trade growth, integration in global value chains, and competitiveness. Overall, trade costs have fallen in Asia and the Pacific, yet there is wide variation across subregions in terms of the challenges, countries face in engagement in cross-border trade.

In every subregion, the time to export and import has come down. Today, Asia and the Pacific is about 65% of the way to the global "best practice frontier" in the time and costs associated with trading across borders.<sup>8</sup> Southeast Asia and East Asia are some of the best performers, with Central Asia improving, but with much still to do (**Figure 7**). Many of the region's economies are closer to the frontier than countries at similar levels of development. Singapore; Hong Kong, China; and the Republic of Korea practically set the frontier. Thailand; Taipei, China; Georgia; Malaysia; and the Philippines also do well in comparison to their developing country peers. The Pacific economies, while doing well regionally, lag behind the comparator group of small island developing economies in the Caribbean.

**Figure 7: Distance to Best-Performer Frontier in Trading Across Borders in Asia and the Pacific by Subregion, 2013**



Source: World Bank. Doing Business Database. <http://www.doingbusiness.org> (accessed 15 June 2015).

<sup>7</sup> "Reducing Trade Costs for Inclusive, Sustainable Growth".

<sup>8</sup> According to the World Bank, "this measure illustrates the distance of an economy to the 'frontier,' which represents the best performance observed on each Doing Business topic across all economies and years included since 2005."

In terms of time to trade in Asia and the Pacific, it takes on average 22 days to export and 21 days to import a product—about three times as long as in North America (Figures 8a and 8b). However, there is also immense subregional variation in the time it takes to do trade—for example, it can take 10 times as long to export and import products in Central Asia as in Singapore. Indeed, Singapore (4 days to export and 6 days to import) and Hong Kong, China (6 and 5 days) are among the most streamlined in the world. These differences are correlated with—and to a good extent driven by—differences in the efficiency of border clearance and transportation, and the sophistication of logistics.

The number of documents needed to export and import is another indicator of trade efficiency. It is especially high in South Asia (8.1 and 9.4) and in select economies of Central Asia, such as Kazakhstan (10 and 12) and the Kyrgyz Republic (9 and 11), where document needs are even higher than in Sub-Saharan Africa (7.6 and 8.9).

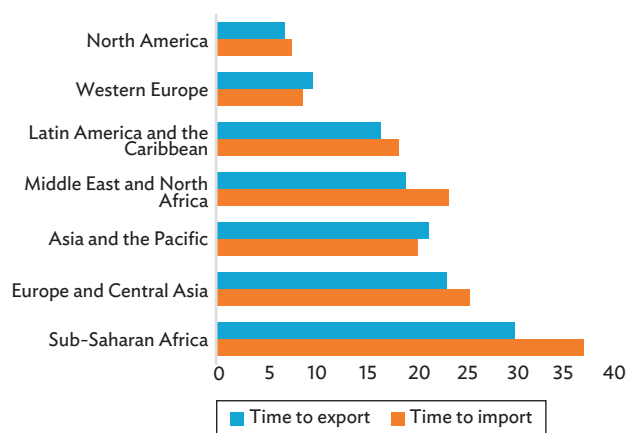
Despite progress, high trade costs continue to put a brake on growth. Firm-level surveys offer some insight into the magnitude of this impact on exporters. Overall, a third of exporters in the Pacific and about a quarter of

exporters in Central Asia still consider transportation or customs procedures to be “major constraints.” To put this in context, while these issues are among the general constraints identified by majority of firms in all subregions; they are ranked as less important than corruption or access to finance.<sup>9</sup>

It is clear that reducing trade costs in Asia and the Pacific will contribute to AfT’s goal of increasing trade. Research indicates that world GDP would grow by 4.7% and world trade would grow by 14.5% if all countries were to raise their performance halfway to global best practice in two key components—border administration and transport and communications infrastructure.<sup>10</sup> These gains would also be significant in Asia and the Pacific—9.3% growth in GDP and 12.1% growth in exports in Southeast Asia; 8% for GDP and 65.2% for exports in South and Central Asia.

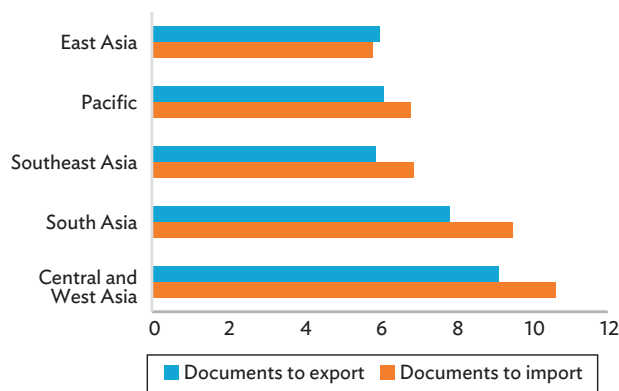
Much of the discussion about trade costs focuses on the quality and efficiency of physical infrastructure. The effectiveness of this target is backed up by evidence. It has been shown that each \$1 spent in trade facilitation (both economic infrastructure and trade development) increases exports by \$1.33.<sup>11</sup> Others have shown that AfT is correlated with reductions in trade costs, time in transit,

**Figure 8a: Time to Export and Import by Region, 2013 (days)**



Source: World Bank. Doing Business Database. <http://www.doingbusiness.org> (accessed 15 June 2015).

**Figure 8b: Number of Documents to Export and Import in Asia and the Pacific by Subregion, 2013**



Source: World Bank. Doing Business Database. <http://www.doingbusiness.org> (accessed 15 June 2015).

<sup>9</sup> World Bank Enterprise Surveys.

<sup>10</sup> World Economic Forum. 2013. Enabling Trade: Valuing Growth Opportunities.

<sup>11</sup> Helble, Mann and Wilson (2012). Aid-for-Trade Facilitation. Review of World Economics 148 (2).

and costs of infrastructure services.<sup>12</sup> While AFT's return on investment varies by country and type of intervention, it tends to be positive (**Box 2**).

## 1.4 Opportunities for Inclusiveness

As trade costs continue to trend down, small and medium sized enterprises (SMEs) could experience particularly large gains. These firms are the backbone of regional employment and GDP. Yet the vast majority do not export. This in part a function of the fixed nature of trade costs which makes them proportionately larger for small shipments than large-volume bulk shipments. SMEs are hard-pressed to deal with these constraints, not least because they tend to lack access to adequate finance. This is a particular problem in high-risk developing countries and for high-risk firms, like SMEs. A 2015 ADB study shows that the rejection rate faced by SMEs for their trade finance proposals was three times higher than that for larger firms.<sup>13</sup>

Women-owned SMEs need to be targeted particularly carefully in AFT interventions. Lowering trade costs can

improve entrepreneurship opportunities and export growth. But the literature on gender outcomes of trade liberalization has consistently shown mixed impacts in terms of wages, labor force participation, and access to services.<sup>14</sup> In addition, women-owned firms tend to be less productive due to a lack of access to resources and a tendency to operate in low value-added sectors.

One trend in that has been largely overlooked, and which affects SMEs and female exporters uniquely, is exporters' entry into the digital economy. This space has a different trade cost architecture than the traditional trade environment. Even as donors have invested in ICT infrastructure, the transport and logistics pertinent to trade in the digital era have received less focus. Online trade lowers trade costs in some areas (especially when products digitize) and increases them in others (especially for small parcels traded through e-commerce, given their high sensitivity to shipping costs). It is particularly attractive for small exporters and has interesting implications for the gender barriers that impact enterprise growth. Section 2 highlights this new area and explores its potential for firms in Asia and the Pacific.

### Box 2: Aid for Trade Impact in Asia and the Pacific

In a gravity model of 30 developing countries and 67 importing economies in Asia and the Pacific, Aid for Trade (AFT) is found to have a significant positive impact on exports of recipient countries. On average across the region, a \$1 contribution of AFT was found to result in an approximately \$67 increase in total exports one year later. The return is driven by the People's Republic of China; AFT returns in developing countries is estimated at about \$5. Aid for trade facilitation had the highest impact on exports per dollar invested, followed by trade policy and regulations.

#### Estimated Contribution of AFT on Bilateral Exports

	Contribution of \$1 of Aid for Trade	Contribution of \$1 of Aid for Trade Facilitation	Contribution of \$1 of Aid for Trade Policy and Regulations
Bangladesh	\$3.89	\$6,334	\$437
Kyrgyz Republic	\$1.31	\$82	\$326
Lao People's Democratic Republic	\$0.84	NA	NA
Solomon Islands	\$1.19	\$280	\$1,369
Viet Nam	\$4.13	\$1,637	\$360

Source: NA = not available.

Source: UNESCAP. 2011. *Asia-Pacific Case Stories: A Snapshot of Aid for Trade on the Ground*.

<sup>12</sup> See, for example, Cali and te Velde (2011); Busse, et al (2011); Ferro, et al (2011).

<sup>13</sup> ADB (forthcoming) 2015.

<sup>14</sup> For example, it has been shown that increased competition from trade is correlated with larger gender wage gaps. Berik, Rodgers, and Zveglic (2004). *International Trade and Gender Wage Discrimination: Evidence from East Asia*. *Review of Development Economics* 8(2). Also see IMF (2013) *Women, Work and the Economy: Macroeconomic Gains from Gender Equality*.



## CHAPTER 2

# New Opportunities to Manage Trade Costs: Digital Trade and E-Commerce

Almost 70% of AfT in Asia and the Pacific goes to transport and communications infrastructure. This is the backbone of the modern trading system and has been critical to reducing trade costs across the region over the past decade. One element of this—information and communications technology (ICT)—is increasingly integrated into almost every sector of development lending. Most trade facilitation projects, for example, aim to put data online and use data-driven systems to improve border processing and government programs (**Box 3**).

As ICT infrastructure has improved across the region, businesses are moving online and e-commerce has become a typical way of doing business, even in the least developed countries in the region.<sup>15</sup> This trend is not yet well-analyzed due to very limited data. Yet the speed at which Asia and the Pacific is moving forward is undeniable. The share of Asia and the Pacific in global Business-to-Consumer (B2C) transactions is expected to expand to 37% by 2018 (from 28% in 2014). In terms of market share, this will make it the global leader, eclipsing North America by 2018.<sup>16</sup>

The potential impacts of this new trade space are particularly important for inclusive growth, SME engagement, value chain development and connectivity for both the most connected and the most distant subregions in Asia and the Pacific. Though ICT infrastructure has long been recognized as an important part of economic development and trade, the focus has traditionally been on building the infrastructure rather than how digitization can promote trade and lower trade costs. This chapter aims to start shifting focus to what it takes to do trade in the digital era—what challenges and

opportunities firms in the region face in accessing and leveraging new technologies to engage in trade.

### Box 3: ADB Information and Communication Technology Projects, 2000-2013

Information and communication technology (ICT) is a growing feature of development lending. From 2000-2013, ADB implemented 547 ICT-related projects worth \$17.67 billion throughout Asia and the Pacific. The number of approved projects has been trending upward over the period, with the largest number in Southeast and South Asia (16 projects each), but Pacific is also high at 14 projects. In terms of countries, People's Republic of China (36 projects), Viet Nam (34 projects), and Bangladesh and India (both 31 projects) have the largest number of projects. Many projects facilitate trade including via computerized container terminal management in Chittagong Port, network infrastructure in the Kyrgyz Republic, and customs modernization and single window in Central Asia.

Source: ADB.

We introduce this topic at this point in the report before going into the regional chapters for three reasons. First, the logistics and trade costs associated with e-commerce are very different than that of traditional containerized trade. Describing these costs allows us to paint a more complete picture of what trade costs look like in Asia and the Pacific. Second, the e-commerce experience differs significantly among subregions. Some countries are already moving into digitized trade and 3-D printing, while others are only beginning to explore the potential of newly built ICT infrastructure. Finally, to understand

<sup>15</sup> See UNCTAD 2014 for a description of nascent e-commerce markets in Bangladesh and Cambodia, for example.

<sup>16</sup> UNCTAD 2014.

where AfT is needed, we need an understanding of how trade happens both now and in the future.

This chapter first describes the experience of e-commerce by detailing intensity and readiness indicators. The final two subsections highlight the potential that greater usage of this trade channel can have for the inclusiveness of trade—specifically, how it can be used to target greater engagement in trade by SMEs and women-led firms.

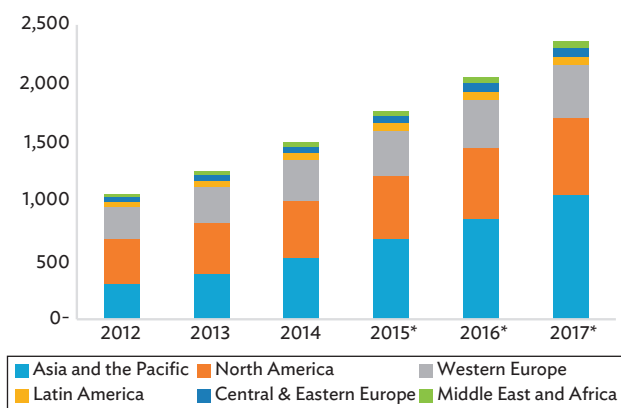
## 2.1 E-Commerce Intensity

Asia and the Pacific is one of the world’s leading e-commerce markets—at nearly one-third of global e-commerce transactions.<sup>17</sup> While today most B2C e-commerce is within or between advanced economies, economies in Asia and the Pacific are capturing a growing global share. By number of net users, the PRC is the

leading e-commerce consumer market. In 2015, the PRC is estimated to have 700 million net users, almost twice as many as the US and Japan combined.<sup>18</sup> This is part of a larger global trend—with B2C transactions expected to soar to \$2.4 trillion in 2017 from \$1.5 trillion in 2014 (Figure 9).

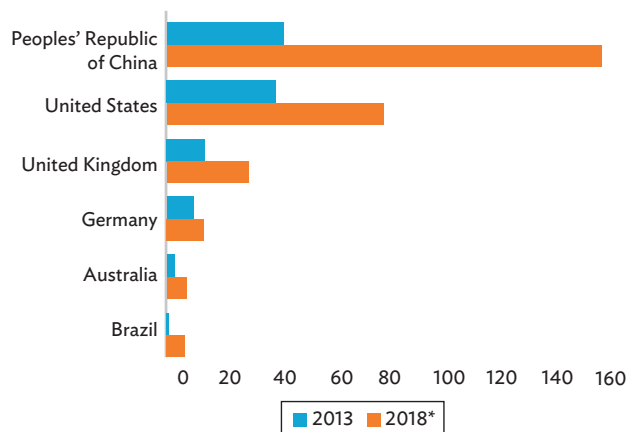
Cross-border transactions are an important part of e-commerce. In the six main e-commerce markets—the US, United Kingdom, Germany, Brazil, the PRC, and Australia—cross-border e-commerce makes up an average of 16% of all e-commerce transactions.<sup>19</sup> Much of the growth in cross-border e-commerce in Asia and the Pacific—and the world—is driven by the PRC. In the PRC alone, cross-border transactions are expected to make up an estimated \$160 billion in 2018, up from \$43 billion in 2013 (Figure 10).

**Figure 9: Global Business-to-Consumer E-Commerce Marketplace by Region, 2012–2017\*** (\$ billion)



\* = forecast.  
Source: eMarketer.

**Figure 10: Cross-Border E-Commerce Flows—Selected Economies, 2013 vs. 2018\*** (\$ billion)



\* = forecast.  
Source: Paypal. 2014. *Modern Spice Routes: The Cultural Impact and Economic Opportunity of Cross-Border Shopping*.

<sup>17</sup> B2C is the smaller category of e-commerce at about one-tenth of all e-commerce. Business to business (B2B) transactions are estimated to make up 90% of e-commerce, but data is more limited.  
<sup>18</sup> “Online Retail Sales in PRC Will Triple to More than \$360 Billion by 2015, as the Internet Adds Nearly 200 Million Users,” Boston Consulting Group, 12 April 2012.  
<sup>19</sup> Paypal. 2014. “Modern Spice Routes: The Cultural Impact and Economic Opportunity of Cross-Border Shopping.” For an excellent study of e-commerce in the US, see US International Trade Commission (USITC). 2013. “Digital Trade in the U.S. and Global Economies, Part 1,” US ITC Publication 4415.

Strong growth is seen also in Japan, the Republic of Korea, and Singapore. In South Asia, India is emerging as another large e-commerce market (**Box 4**). In Southeast Asia, countries are moving quickly in part due to a harmonized legal regime. In Cambodia, for example, though international e-commerce sites have not yet entered the country in force, local retailers have begun online sales and deliveries.<sup>20</sup>

#### Box 4: India's E-Commerce Revolution: Catalyst for Entrepreneurship and Trade

E-commerce is growing rapidly as smart phone penetration expands. In 2009-13, e-commerce grew by 35% annually to reach \$12.6 billion. Transactions do not only take place in India's main cities. India's 3,133 tier-II and tier-III cities and 1,233 rural hubs are contributing significantly to e-commerce growth, largely due to the spread of mobile phones in rural and semi-rural areas.

India's entrepreneurs engage with e-commerce for three main reasons: no need for a physical store; flexibility of schedule, and prohibitive cost of property rent. India's eBay entrepreneurs export products to a total of 206 countries and territories. These entrepreneurs also have robust growth rates. About 36% of eBay sellers reported 20% annual growth, 24% reported 21%-40% growth, and 13% reported 41%-60% growth. Moreover, 9% reported growth rates of 151% or more.

Sources: Pricewaterhouse Coopers and eBay.

The Pacific is an interesting study in this regard given that internet connectivity is a very recent phenomenon. Even the largest countries had limited internet access until 5-7 years ago, and in most, costs remain well above global averages (see Chapter 4).<sup>21</sup> Yet firms, in particular younger SMEs, have begun to generate sales via the internet.<sup>22</sup>

Firms of all sizes are moving online. Yet the speed of engagement varies a great deal by economy in Asia and the Pacific. Key reasons include idiosyncratic national barriers and the perception about security of online payments.<sup>23</sup> Only an estimated 15% of people in Asia and the Pacific buy online, as compared with 49% in Western Europe and 60% in North America.<sup>24</sup> Logistics and warehousing availability impacts these rates as well. While India, the PRC, and Singapore have made investments in these areas, other countries lag behind. By all indications, Asia and the Pacific has a great deal of latent potential for expanding e-commerce. So what more is needed?

## 2.2 E-Commerce Readiness

The intensity of e-commerce usage is largely explained by different degrees of accessibility. Here we use four e-commerce readiness indicators to explore where gaps in the region exist. These are: internet penetration, adoption rates, the policy environment, and logistics. They also represent key areas where AfT could promote the infrastructure that is needed to facilitate expansion online.

**Internet Penetration.** Mobile cellular subscription rates have soared in Asia and the Pacific over the past decade, from 22 subscriptions per 100 people in 2004 to just over 100 subscriptions per 100 people in 2013.<sup>25</sup> This is a critical development as the vast majority of users in the region access the internet using mobile internet.

However, internet penetration rates are still low—about a third of the population in Asia and the Pacific use the internet, ranging from nearly 60% of people in East Asia to only about a fifth in the Pacific and South Asia (**Figure 11**). Most countries in Asia and the Pacific have internet usage rates lower than those of countries of comparable levels of development.

<sup>20</sup> UNCTAD.2015. Information Economy Report 2015 - Unlocking the Potential of E-commerce for Developing Countries. UNCTAD: Geneva.

<sup>21</sup> Eight ADB Pacific developing member countries continue to rely solely on satellite connections which are expensive and relatively unstable.

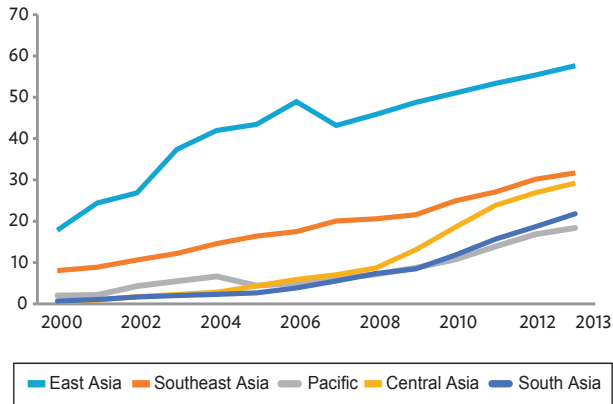
<sup>22</sup> A recent ADB survey of active exporters found that 86% of firms had an online presence, despite the limited availability of broadband in the region.

<sup>23</sup> Online shoppers in many countries still do not trust online payments for making a purchase, forcing sellers to engage in more time-consuming and uncertain cash-on-delivery methods.

<sup>24</sup> UNCTAD.2015. Information Economy Report 2015 - Unlocking the Potential of E-commerce for Developing Countries. UNCTAD: Geneva.

<sup>25</sup> World Bank's World Development Indicators.

**Figure 11: Internet Users in Asia and the Pacific (per 100 people) by Subregion, 2000–2013**



Source: World Bank. World Development Indicators Data. <http://www.data.worldbank.org> (accessed 10 June 2015).

Broadband access, which is important for business usage, remains limited in scope, with about 7 out of 100 people in the region having access. Yet estimates suggest that an increase in broadband penetration by 10% can raise GDP by a percentage point.<sup>26</sup>

**Usage by Firms.** For e-commerce to promote export growth, companies and consumers need to adopt the technology. Selling online to foreign customers requires firms to have the capacity to research and locate foreign customers and markets over the internet; develop a web-based marketing and social media strategy; brand, label, and price products for foreign customers; meet foreign standards; translate websites into foreign languages; create a multichannel shopper strategy. In addition to maintaining an online presence, companies need awareness- and capacity-building in order to e-commerce in their operations.

Even though many companies use email and have access to the internet—and possibly have an online presence via social media or e-commerce platforms—the majority in Asia and the Pacific still do not have their own websites, let alone have capabilities for potential buyers to order online (**Figure 12**). These lags are not unusual given the prominence of SMEs. Even in advanced markets, for example in Canada, where nearly 90% of SMEs use the internet, only 18% report making online sales.<sup>27</sup>

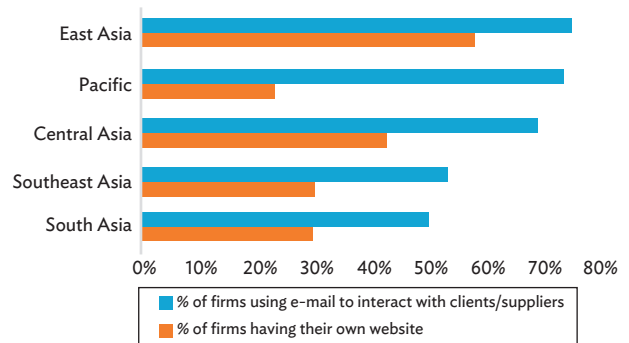
**Box 5: How Woman-Owned Business Exports Online from Samoa**

One example of the opportunities opened by e-commerce for women-led SMEs *Janet’s*, a crafts exporter in Samoa with a dozen employees. The company started in 1989 and exported that same year. Today, the company does designs, such as for lifestyle clothing, and differentiates itself with quality.

The company has had an online presence through its website since 1999, and opened their online store in 2012. Today, the company also uses an online store and advertises via Facebook, where they gets hits especially from Fiji, and generates sales especially from Australia and New Zealand. To reach teens and people in their 20s, Janet’s is also using Instagram and Twitter, and now expanding to Pinterest. For its own website, the company uses Google Adwords to make the more visible with likely buyers.

Source: ADB. May 2015.

**Figure 12: Share of Firms that Use their Own Website and E-mail with Clients by Subregion, 2014 (%)**

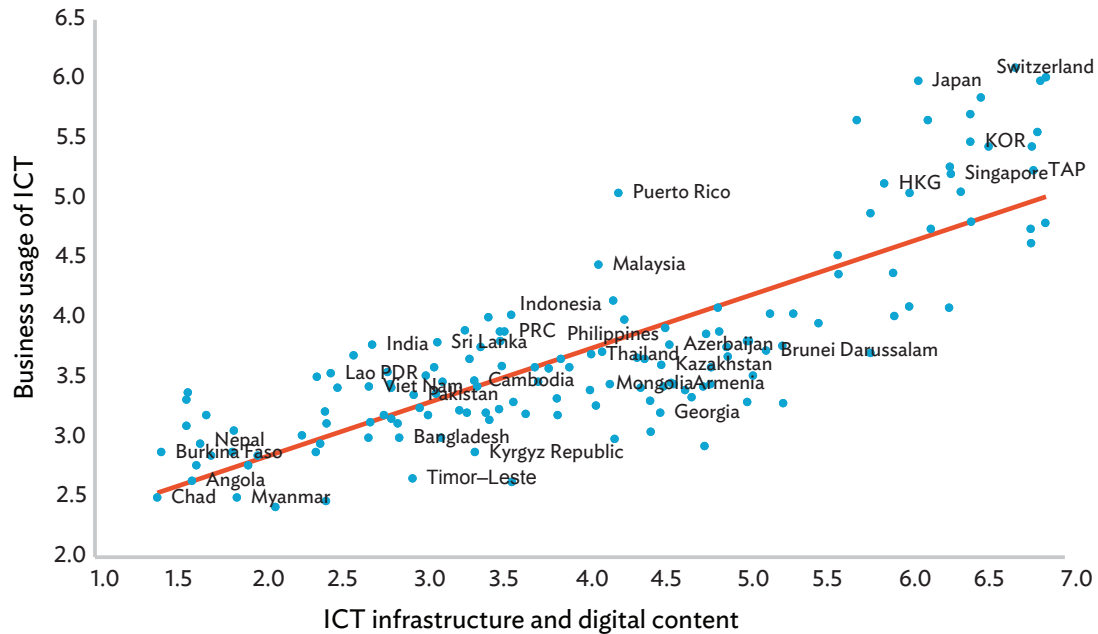


Source: World Bank. Enterprise Surveys Data. <http://www.enterprisesurveys.org> (accessed 12 June 2015).

<sup>26</sup> Qiang (2009) cited in World Bank (2009) Information and Communications for Development 2009: Extending Reach and Increasing Impact.

<sup>27</sup> Report of the Standing Committee on Industry, Science and Technology, House of Commons. 2012. “e-commerce in Canada: Pursuing the Promise” (May).

Figure 13: Quality of ICT Infrastructure and Business Usage from ICT—Selected Economies, 2014



PRC=People's Republic of China; HKG=Hong Kong, China; KOR=Republic of Korea; Lao PDR=Lao People's Democratic Republic; TAP= Taipei,China.

Source: *Global Information Technology Report 2014*, World Economic Forum.

While internet access is critical for e-commerce to blossom, it is not sufficient. Even economies that have good ICT infrastructure still sometimes struggle to translate their connectivity into business use (Figure 13).<sup>28</sup> Advanced economies in Asia and the Pacific (Singapore; the Republic of Korea; Taipei,China; and Hong Kong, China) have excellent ICT infrastructure and high business usage. A large portion of the region's emerging markets and developing countries—especially in Central Asia—do quite well on the infrastructure side, but have yet to translate their connectivity into business usage. Meanwhile, Malaysia, the PRC, India, Indonesia, and Thailand do better in business usage than other countries with similar ICT infrastructures. This suggests the presence of barriers to access and use of the existing technologies.

**Policy Environment.** The third critical element for e-commerce readiness is the policy environment. This includes the presence of a legal framework for e-commerce, and whether there are supportive government policies. In Asia and the Pacific, an estimated 73% of economies have adopted laws on e-transactions, but only 38% have adopted laws on consumer protection and 29% on privacy.<sup>29</sup> Cybercrime laws are in place in 56% of economies. These figures trail the 83% to 97% adoption rates in developed economies.

Because of the cross-border nature of e-commerce transactions, a harmonized regional legal framework is an ideal way to promote economic growth and competitiveness. It also has important enabling effects on target areas like tourism, e-government, and services

<sup>28</sup> These indexes created by the World Economic Forum are widely used to analyze digitization around the world. Each is based on several variables.

<sup>29</sup> UNCTAD.2015. *Information Economy Report 2015 - Unlocking the Potential of E-commerce for Developing Countries*. UNCTAD: Geneva.

and outsourcing. Yet, legislation is often not coordinated. ASEAN was the first developing region in the world to take this approach, and can offer lessons for the rest of Asia and the Pacific (Box 6).

**Box 6: ASEAN’s Pioneering Regional E-Commerce Framework**

Among developing countries, ASEAN is a pioneer in the design and implementation of such a regional approach. Its e-commerce cooperation was launched in 1999 with the e-ASEAN initiative. This was intended to complement existing national strategies while allowing for regional competitiveness to flourish. The e-ASEAN Framework Agreement promoted regional development by establishing the ASEAN Information Infrastructure. In 2011, the ASEAN ICT Masterplan 2015 targeted ICT as an enabler for further social and economic integration.

Areas where ASEAN legislation has focused, and which other regions could consider, include:

- Electronic transactions
- Cybercrime
- Consumer protection
- Content regulation
- Data protection and privacy
- Domain names and dispute resolution

Source: UNCTAD. 2013. Review of E-Commerce Legislation Harmonization in the Association of Southeast Asian Nations.

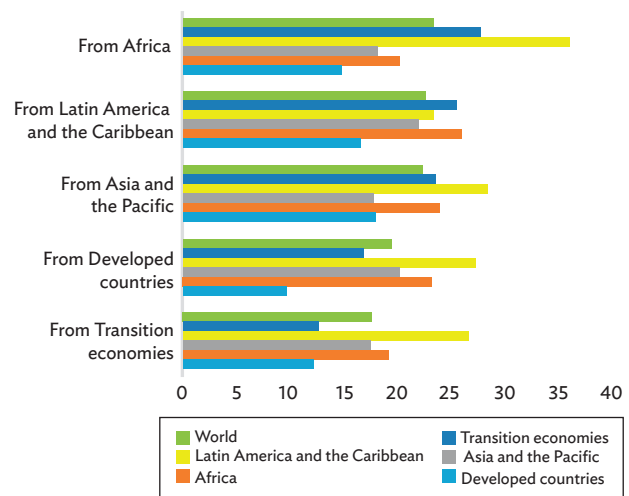
There are also emerging cross-border initiatives that tie in e-commerce to plans to expand trade regionally. A recent planning document to connect the PRC with Central and Southeast Asia has targeted cross-border e-commerce as a cooperation priority as well as a way to promote trade with inland cities.<sup>30</sup> From this initial momentum will require nuance and appropriate sequencing. In some economies, infrastructure issues are paramount; in others, regulatory or consumer information variables predominate.

**Logistics for E-Commerce.** Logistics underpinning e-commerce transactions for goods are different from those that characterize how trade is traditionally done – where large retailers exported and imported products in bulk on pallets in large distribution centers which were

then sold from brick-and-mortar stores to customers. Logistics is more complex and sophisticated in the world of B2C and customer-to-customer transactions, which involve millions of small, individual parcels, each with a customized path for delivery. Warehousing too is more demanding—e-commerce warehouses need to handle the order fulfilment, sorting, distribution, and parcel returns.

In contrast to the dominance of Asia and the Pacific in shipping connectivity (see Chapter 3), parcel shipping times—which are critical for e-commerce—are relatively long (Figure 14).

**Figure 14: Average Shipping Time for Parcels to Various Destinations—Selected Regions, Q2 2013–Q1 2014 (days)**



Source: United Transportation Union.

This is largely driven by the fragmented logistics infrastructure that characterize much of the region. For example, India’s e-commerce market—with millions of customers spread out across more than 100,000 ZIP codes—is held back by inadequate warehouses, lack of skilled and reliable workers, and lack of air cargo space.<sup>31</sup> This setting is changing rapidly as large retailers and platforms such as Amazon and Alibaba are investing billions of dollars to build new warehouses,

<sup>30</sup> Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road. Issued by the PRC’s Ministry of Foreign Affairs and the Ministry of Commerce. (2015).

<sup>31</sup> Adi Narayan, “Logistics Are Holding India’s E-Commerce Companies Back,” Bloomberg Business, 11 December 2014.

and logistics companies and postal services are working to accommodate door-to-door and last-mile delivery. However, logistics remains a bottleneck for the growth of the regional e-commerce market. While the traditional focus of Aft in transport and logistics has attenuated these bottlenecks, it is also the case that e-commerce calls for a new focus on inland transport, warehousing, and delivery (**Box 7**).

### Box 7: Using DHL for Exports in Papua New Guinea

Banz Kofi is a niche coffee exporter that operates out of Mount Hagen, Papua New Guinea. The firm produces coffee for their cafe as well as for domestic sales and export. As a small operation, exports are sent via air shipment. While this is expensive, it is also necessary in order to deliver coffee freshly after roasting, which is part of the product niche. The founder of the firm points out that he was able to begin export operations due to the presence of Mount Hagen Airport and a DHL office nearby the roasting operations. This illustrates the types of logistics that are critical for small batch exporters.

Source: ADB. May 2015.

Another logistics challenge related to small parcel shipping is simplified customs regulations. Given their limited shipments, SMEs have higher fixed costs per parcel (or “per unit”) in shipping their products than do large exporters shipping large volumes. Similarly, unit costs of regulatory compliance are higher for low-volume than high-volume exporters. While the costs of non-compliance can be both lost sales and hefty fines, the fixed costs for individuals and small businesses to meet complex customs regulations risk overwhelming profits from shipping a small parcel. Though governments in many countries have introduced and raised *de minimus* levels (a ceiling on the value or weight of cross-border shipments below which customs clearance is simplified and fast-tracked), the level of this ceiling remains very low in most countries.

The ability to take online payments is another element of the logistics environment critical to e-commerce readiness (**Box 8**). While one global payments solution, PayPal, is available across most countries in Asia and

the Pacific, setup can be a challenge for new entrants. In addition to the difficulties of setup, users may be uncertain about the security and privacy of online payments. In a 2014 survey of 3,250 SMEs in 11 countries, 51% stated the belief that the safety of personal data online is a “problem”, and 38% indicated consumers’ trust in online payments system is a problem.<sup>32</sup>

In sum, there are several barriers facing e-commerce that can be addressed via Aft. The impetus to address them comes from the impact it can have on populations that struggle to engage in trade at the same rates as large firms—SMEs and women entrepreneurs.

### Box 8: E-Payments in Asia and the Pacific

Many emerging markets in Asia continue to be cash-based societies due to limited banking and credit card penetration. Some companies such as Flipkart in India, 360buy and Tmall in the People’s Republic of China, and Rakuten in Indonesia, offer cash collection on delivery. This, however, is costly and risky for the seller and delivery firm. Meanwhile, Cherry Credits in Singapore, GudangVoucher in Indonesia, and Gash Plus in Taipei, China, allow consumers to buy pre-paid cards at retail outlets that can later be used to purchase online games. In the PRC, eWallets or digital wallets—software such as MasterCard PayPass that enable a user to make financial transactions on e-commerce sites—are an accepted choice among consumers.

Yet challenges lie ahead in guaranteeing the integrity of these payments. Interoperability is a challenge. A mobile payments platform that is tied to a particular national carrier network is not useful for cross-border transactions because a buyer in another country that is not a subscriber to the seller’s telecom network will not be able to remit the payment.

Source: T. Bijlan and S. Gupta. 2013. E-Commerce in Asia: Challenges and Opportunities. <http://www.people.hbs.edu/sgupta/EcommerceinAsia.pdf>

## 2.3 SMEs Internationalization

Traditionally large companies have had an edge on small firms in terms of having global networks, capital, and scale economies to enter world markets and drive down costs. In most economies, exports are driven by the so-called

<sup>32</sup> Boston Consulting Group. 2014. “Greasing the Wheels of the Internet Economy”.

“export superstars”, or a few large multinationals such as Samsung, Tata, and Sony that make up a tiny share of the number of exporters in their countries, but the bulk of their countries’ export volumes.

One reason SMEs are largely unengaged in export markets is that exporting implies fixed upfront costs that are proportionately larger for small firms. Successful internationalization is increasingly synonymous with online presence. This comes through a variety of channels. E-commerce is a vehicle for consumers and businesses to gain access to a wider variety of inputs, to compare prices, and to connect with buyers.

Yet online, SMEs exhibit different export behaviors. Consider India, where only 9.6% of firms export—but 98% of online sellers do.<sup>33</sup> Online exporters are also highly diversified, exporting to 31 countries on average, as opposed to brick and mortar companies that typically export to one or two foreign markets. The higher diversification of online sellers enables them to spread risk across markets, reduce demand uncertainty, and stabilize export revenues—which in turn can increase firms’ incentives to invest in new technologies and other productivity improvements.<sup>34</sup>

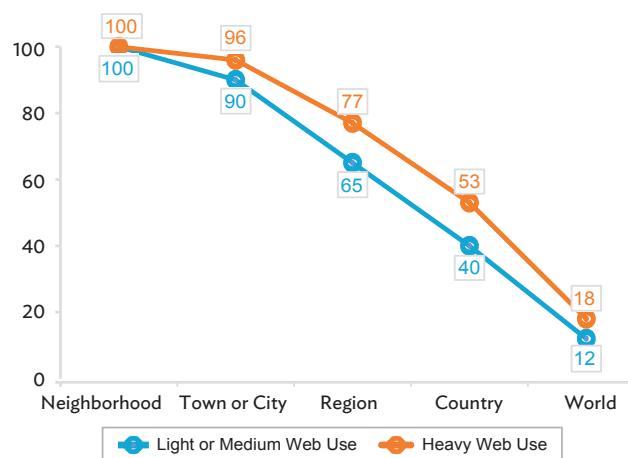
A key reason for the difference between online and offline exporters is that e-commerce is less impacted by geographic distance. In a gravity model comparing online and offline trade, the importance of geographic distance is 65% less for online trade.<sup>35</sup> In addition, online trade can help buyers disentangle the exporter’s quality and reliability from the exporter’s country image.

Firm-level surveys offer insight into how e-commerce helps companies overcome distance. Firms that are heavy web users have a wider market—they are almost 50% likelier to sell products and services outside of their

immediate region. They are also 63% likelier to source products and services from farther afield (**Figure 15**).

In addition, by using e-commerce, companies can engage in “passive exporting” and forego paying the many up-front costs associated with exporting. For example, sellers do not necessarily need to attend trade missions, trade fairs and networking events, travel overseas, and or make calls to scores of global customers. They can simply post their goods online and be approached by foreign buyers worldwide. This is particularly attractive to landlocked and small island countries where travel is difficult and expensive.

**Figure 15: Small and Medium-Sized Enterprises’ Sales Reach by Market and Level of Web Use (%)**



Source: Boston Consulting Group. 2014. *Greasing the Wheels of the Internet Economy*.

<sup>33</sup> 2014 Enterprise Surveys.

<sup>34</sup> Reducing trade costs and barriers to trade can also incentivize exporters to adopt better technologies. See Lileeva, and Trefler. 2010. “Improved Access to Foreign Markets Raises Plant-Level Productivity...for Some Plants,” *The Quarterly Journal of Economics*, vol. 125(3); and Bustos, 2011. “Trade Liberalization, Exports, and Technology Upgrading: Evidence on the Impact of MERCOSUR on Argentinian Firms,” *American Economic Review*, 101(1): 304-40. See also Buch, Döpke, and H. Strotmann. 2009. “Does Export Openness Increase Firm-Level Output Volatility?” *World Economy* 32 (4).

<sup>35</sup> Lendle, Adreas, Marcelo Olarreaga, Simon Schropp, and Pierre-Louis Vezina. 2012. “There Goes Gravity: How eBay Reduces Trade Costs,” *World Bank Policy Research Working Paper* 6253. See also Lendle, Adreas and Marcelo Olarreaga, 2014. “Can Online Markets Make Trade More Inclusive?” Mimeo, Inter-American Development Bank.

## 2.4 Unlocking the Potential of Women-Led Firms

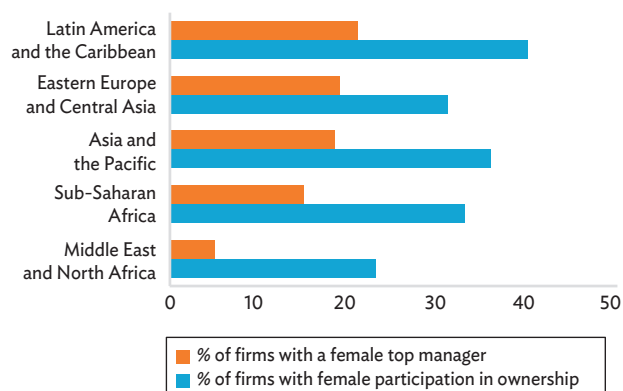
E-commerce could make a particularly big difference for women-led businesses, which in many economies remain a latent source of job-creation and economic growth. There are two channels in particular through which women exporters can gain. First, ICT tools can improve women's entrepreneurship. And second, e-commerce enables women to do more with the limited resources that they have available.

In Asia and the Pacific, women-led firms are only 18% of all firms (**Figure 16**). This does not mean that women do not run businesses—rather, women are active in the private sector in most developing economies. However, they tend to be disproportionately represented in the informal sector of the economy (**Box 9**).

One reason for the relatively limited share of women-led firms is that men and women seldom have equal access, control, and use of the same resources and marketing outlets.<sup>36</sup> Women are also often more constrained by lack of access to finance due to their lower available collateral, and tend to be less mobile, which hinders networking and increases search costs. The role of caregiver also falls to women, which results in less time for business development, and lower access than their male counterparts to skills development and training. They also often operate in lower-growth, lower-value added sectors.

ICT can boost female entrepreneurship, which in turn can contribute to economic growth, increased household welfare, and intergenerational gains. Indeed, research shows that gender gaps in entrepreneurship can have significant effects on labor force participation, aggregate productivity, and resource allocation. The income losses due to the gender gap have been estimated to be as high as 7% in GDP per capita.<sup>37</sup> Investments in women-owned enterprises can bring more businesses to the formal economy and have multiplier effects on job creation.

**Figure 16: Women's Ownership and Participation in Enterprises by Region (%)**



Source: World Bank. Enterprise Surveys Data. <http://www.enterprisesurveys.org> (accessed 10 June 2015).

### Box 9: Challenges to Women Entrepreneurs in Pakistan

Starting a business can be difficult. In Pakistan, only 1% of women are engaged in entrepreneurship. The challenges run deep. According to the Pakistan Bureau of Statistics, only 14% of Pakistani women participate in the labor force. And of those who do become entrepreneurs, they are three times less likely to know other entrepreneurs than men are.

Source: Global Entrepreneurship Monitor 2012.

<sup>36</sup> UNCTAD. 2011. Information Economy Report 2011: ICT as an Enabler of Private Sector Development. UNCTAD: Geneva.

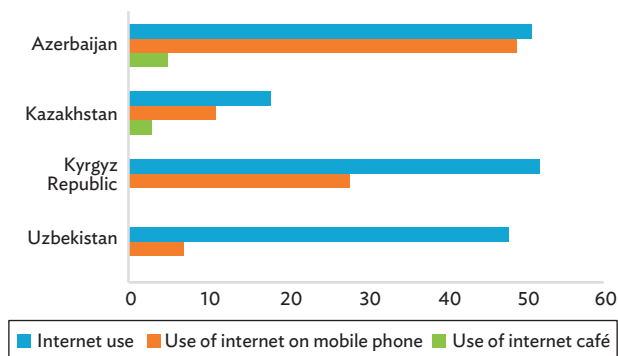
<sup>37</sup> Cuberes, D. and M. Teignier. 2012. "Gender gaps in the labor market and aggregate productivity." Sheffield Economic Research Paper Series. Sheffield, UK: University of Sheffield.

<sup>38</sup> ADB. 2014. "Information and Communication Technologies for Women Entrepreneurs: Prospects and Potential in Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Uzbekistan."

In Central Asia, ADB has recently explored the potential of ICT on women entrepreneurs. A study of Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Uzbekistan reveals a number of patterns regarding women business owners' internet use—as well as women's considerable interest in learning ICT skills for growing their business.<sup>38</sup>

With the exception of Kazakhstan where fewer than a fifth of women business owners use the internet, about one-half of women-led companies use the internet in the region (Figure 17). Many business owners have prioritized market expansion as well as better integration of ICT in order to increase production efficiency (51% in Uzbekistan, 42% in the Kyrgyz Republic, 36% in Kazakhstan, and 16% in Azerbaijan). One-half of women-led companies in Uzbekistan and 27% in Kazakhstan want to develop a website to sell more online.

**Figure 17: Internet Use by Women Business Owners in Central Asia—Selected Economies, 2014 (%)**



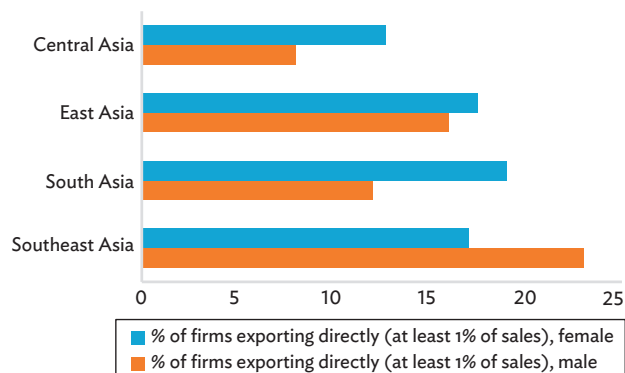
Source: ADB. 2014. *Information and Communication Technologies for Women Entrepreneurs: Prospects and Potential in Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Uzbekistan*.

Interestingly, once women-led firms make it to the formal economy, they do not appear any less likely to export

than male-led firms. In fact, a larger share of women-led firms export than male-led firms in Central Asia, East Asia, and South Asia. However, even if women seem as likely as men to export, there are also many fewer women exporters, given that women entrepreneurs are underrepresented as business owners and in formal businesses. As such, women's entrepreneurship represents untapped potential for economies in Asia and the Pacific (Figure 18).

Though women-owned SMEs have been found to be less profitable than SMEs owned by men, the difference disappears for mid-size and larger ventures.<sup>39</sup> This suggests that it is important to address the barriers constraining the growth and upgrading of women-owned SMEs. One way to break these barriers is through a greater use of ICT.

**Figure 18: Firms' Export Participation by Subregion and Gender of Firm Owner, 2009–2014 (%)**



Note: Data not available for all economies. Source: World Bank. Enterprise Surveys Data. <http://www.enterprisesurveys.org> (accessed 10 June 2015).

ICT tools can enable women business owners to do more with their limited resources and time. Indeed, access to ICT can help overcome these constraints and unlock women business owners' full potential. For

<sup>39</sup> See summary by United Nations Conference on Trade and Development. 2011. *Information Economy Report 2011: ICT as an Enabler of Private Sector Development*. UNCTAD: Geneva.

<sup>40</sup> UNCTAD. 2011.

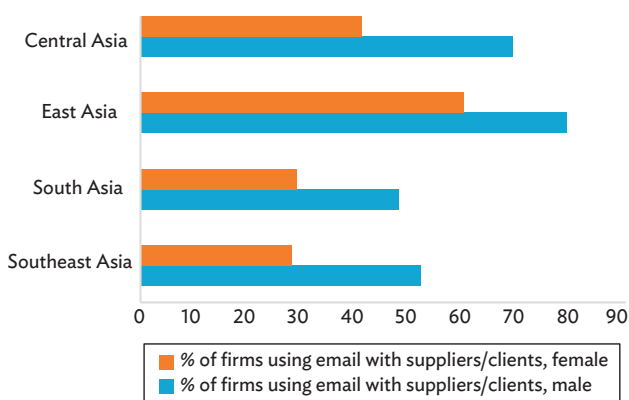
<sup>41</sup> ADB. 2014. "Information and Communication Technologies for Women Entrepreneurs: Prospects and Potential in Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Uzbekistan."

<sup>42</sup> GSMA. 2015. *Bridging the gender gap: Mobile access and usage in low- and middle-income countries*.

example, e-commerce enables women to do business without spending resources to meet buyers directly; the internet enables women to learn about opportunities and sources of finance, access training and information about business development, marketing and prices, and secure microwork opportunities. The spread of mobile phones can help women access mobile financing and alternatives to bank finance.<sup>40</sup>

So far, women’s ICT use is low in Asia and the Pacific. In Azerbaijan, for example, a 2014 survey of women entrepreneurs revealed that while 41% had an internet-capable phone, only 16% had activated it and only 6% used it for business activities.<sup>41</sup> Even as access has expanded around the world, including in rural areas, there is a significant gap between men and women regarding access, use, and ownership of ICT. For example, 200 million fewer women than men own a mobile phone.<sup>42</sup> Women confront social norms that promote male control of technology and information and have less ability to afford to use, rent, or buy new technologies.<sup>43</sup> It is perhaps not surprising then that women are less likely than men to use email or have websites for their firms (Figure 19), a gap that appears in every subregion of Asia and the Pacific.

**Figure 19: Share of Firms in Asia and the Pacific that Use E-Mail with Clients and Suppliers by Subregion and Gender, 2014 (%)**



Source: World Bank. Enterprise Surveys Data. <http://www.enterprisesurveys.org> (accessed 10 June 2015).

These patterns suggest a gender-driven digital divide between men–and women-led firms that, if bridged, could result in expanded female entrepreneurship, greater efficiencies, and greater participation of firms in e-commerce and e-commerce-led export growth.

In sum, trading online has features that attenuate many of the main constraints facing women entrepreneurs—limited time, skills, and networks, and limited physical mobility. ICT can also help women entrepreneurs to establish and grow formal businesses, leverage e-commerce to start and expand export activities, and connect to global value chains (Box 10).

**Box 10: Opportunities for Women Entrepreneurs Online Microwork**

Online outsourcing sites like Elance.com have created new opportunities for women in developing countries to work, including work from home. Elance has over 350,000 freelancers in India, who earned over \$160 million in 2012. Odesk has 2.4 million registered freelancers and more than 480,000 clients—including companies like Cisco and HP. Three of the top four countries with most freelancers registered in Elance are in Asia.

The range of services for which women entrepreneurs are hired is evolving, from services that require basic skills such as data entry and personal assistance to others involving highly specialized skills like IT programming and law. Selected success stories are illustrative of the power of this online microwork. For example, Philippines-based university librarian Sheila Ortencio used to earn \$1.50/hour and struggled to pay for food and child care. After four years of working as a freelancer on Elance, cataloguing e-books online at \$8.50/hour, she was able to save enough to buy properties, including a condo in Manila.

Source: ADB. 2014. *Information and Communication Technologies for Women Entrepreneurs: Prospects and Potential in Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Uzbekistan.*

<sup>43</sup> UNCTAD. 2011.

However, policy attention to catalyzing ICT use among women entrepreneurs is still quite limited, as are programs that are tailored to meet the unique constraints facing women. In addition, lack of data on women's entrepreneurship and ICT use remains a challenge for evidence-based policy making.<sup>44</sup>

Further aid and investment to help women access and use new technologies can create high returns on investment, including by way of expanded trade and economic growth. As such, advancing women's use of ICT can also be a fruitful way to mainstream gender into AfT and other trade-related assistance.

This chapter has analyzed the opportunities that new technologies present for firms in Asia and the Pacific to engage in trade and to promote inclusive economic growth. Several economies are already making forward-looking policy changes and investments in advanced manufacturing, e-commerce and the "Internet of Things," so as to further economic competitiveness and open new channels and cost-savings in cross-border trade.

Furthering the diffusion and use of these technologies is essential for expanding the region's trade in the 21<sup>st</sup> century global digital economy.

This is also a possible new area for AfT investments. In order for countries in Asia and the Pacific to fully take advantage of emerging technologies for exports and inclusive economic growth opportunities, they will need a different focus by the aid and trade communities. Some important areas of focus include internet access and use, e-payments, and customs procedures and logistics for small parcels and small traders.<sup>45</sup>

Existing AfT flows have supported investment in ICT, particularly in infrastructure. The new trade facilitation agenda raises the importance of supporting the right policy environment to translate this infrastructure into increased trade outcomes for all. We presented this extended discussion of the implications for women as an example of the inclusiveness outcomes that can be more effectively targeted through AfT in this sector.

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<sup>44</sup> One useful needs assessment is the ILO/UNCTAD Women's Entrepreneurship Development (WED) surveys, which in 2013 started including ICT in the analysis. These efforts should reveal key data.

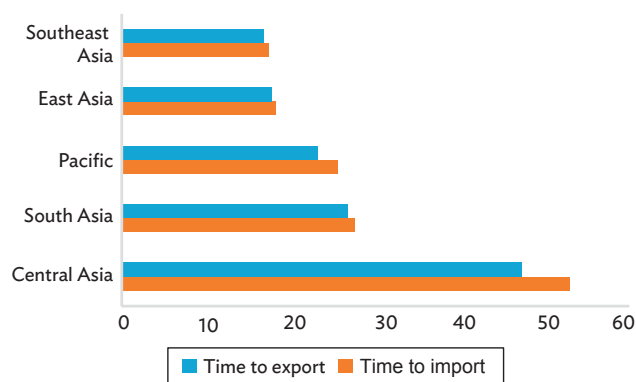
<sup>45</sup> Suominen, Kati. 2014. "Aid for eTrade: Accelerating the Global e-Commerce Revolution," Policy Working Paper, Center for Strategic and International Studies (November); Suominen, Kati. 2015. "Aid for eTrade: Accelerating the e-Commerce Revolution," Blog in The E15 Initiative (March).



the days to export during the period, cutting the number of days from 43 to 22 and 37 to 16, respectively. Georgia has slashed them from 24 to 9 days. However, days to export remain high in Uzbekistan (104 days), Tajikistan (70), and Afghanistan (91), and been reduced much less over the decade—Afghanistan has in fact regressed from 80 to 91 days. Some countries, such as Singapore; and Hong Kong, China, are among the most streamlined in the world.

Time to trade is highest in the landlocked Central Asian economies (**Figure 21**). East Asia and Southeast Asia are at about the same levels as Latin American and Caribbean economies. There is also considerable variation within subregions. In Central Asia for example, Uzbekistan, the Kyrgyz Republic, Kazakhstan, and Tajikistan, take much longer to export and import than in countries of comparable levels of development; while Mongolia and Azerbaijan, take much less .

**Figure 21: Time to Export and Import in Asia and the Pacific by Subregion, 2015 (days)**



Source: World Bank. Doing Business Database. <http://www.doingbusiness.org> (accessed 15 June 2015).

The time and costs of trade are also affected by the number of documents companies are required to complete. Many countries in Asia and the Pacific have reduced the required number of import and export documents. Between 2006 and 2015, the number of import documents was reduced significantly in Georgia (from 15 to 4); Thailand (from 12 to 5); the Kyrgyz Republic (from 17 to 11); Lao PDR (from 15 to 10); the Republic of Korea (from 8 to 3); and Hong Kong, China

(from 8 to 3). For export documents, the Kyrgyz Republic (from 15 to 9); Georgia (from 9 to 4); Thailand (from 9 to 5); and Hong Kong, China (from 6 to 3) during the same period.

The benefits of reducing time to trade can have a significant impact on the volume of trade. For example, it has been estimated that a 10% reduction in the time at the importer's border increases trade by 6.3%, a 10% reduction in the number of documents required by the importer would increase trade by 11%, and a 10% reduction in the required number of signatures on import documents could increase trade by 10%.<sup>47</sup>

### Box 11: Reducing Trade Costs in Afghanistan

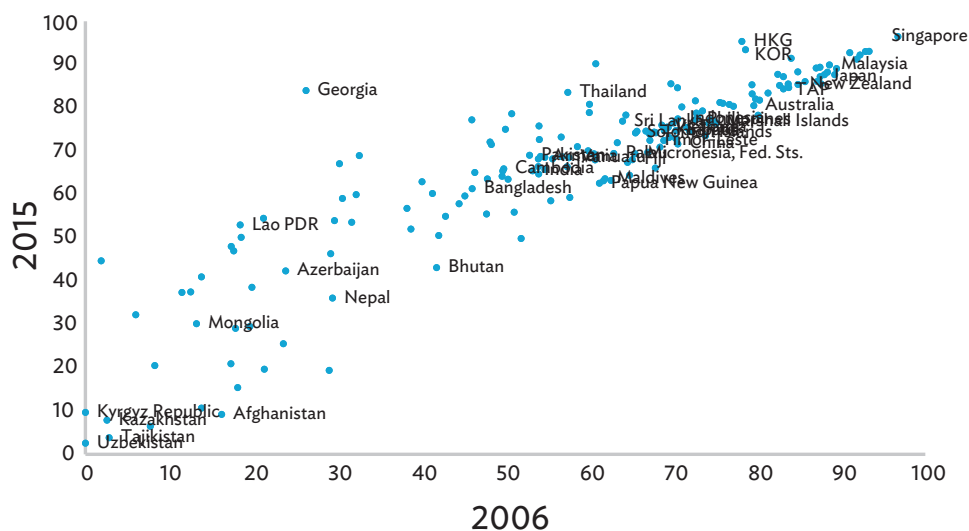
The Hairatan to Mazar-e-Sharif Railway Project in Afghanistan built a 75-kilometer railway line and transshipment facilities and a railway station at Mazar-e-Sharif, and upgraded the marshaling yard and railway station at Hairatan with signaling and telecommunication systems. The line established an integrated system connecting the ring road and airport, and to the Uzbekistan rail system, which leads to markets in Asia and Europe. Between 2008 and 2012, freight increased from 4,500 to 6,500 tons per day, trade with Uzbekistan rose from \$3.5 billion to \$6.8 billion, cost of freight transport dropped by \$0.08 per ton/km and freight time fell from 2 hours by road to 1 hour by rail. Job opportunities grew by 10% annually, as 1,200 locals were employed in logistics operations.

Source: ADB.

The region has improved the distance to the best performing frontier (in trading across borders) from 53% to 62% over the decade. Central Asia—which has long pulled regional averages down—made the greatest strides, from 20% to 33%. Georgia has soared from 26% from the frontier to 84%, and the Lao PDR from 18% to 53% (**Figure 22**).

<sup>47</sup> Wilson, John. 2007. "Examining the Trade Effect of Certain Customs and Administrative Procedures." OECD Trade Policy Working Paper No. 42. OECD.

**Figure 22: Distance to Best-Performer Frontier in Trading Across Borders in Asia and the Pacific by Economy, 2006 vs. 2015**



HKG=Hong Kong, China; KOR=Republic of Korea; Lao PDR=Lao People's Democratic Republic; TAP= Taipei,China.  
Source: World Bank. Doing Business Database. <http://www.doingbusiness.org> (accessed 15 June 2015).

Even as trade costs fall, the high level continues to limit the internationalization of SMEs and the growth of regional e-commerce, for three reasons. First SMEs lack the capacities of large multinationals to meet complex customs regulations and procedures. Second, small parcels are highly sensitive to trade costs: trade costs per unit are higher than in bulk shipping, and door-to-door delivery can add to costs. And finally, competitiveness in trade and e-commerce in particular hinges on the speed of delivery: long waiting times in customs undermine competitiveness.

It is also unclear whether women-led firms are gaining. Evidence is limited, and where the impact of more trade on women's outcomes is measured, the results are often

ambiguous. Positively, an APEC study finds that women-led SMEs are growing rapidly in some countries.<sup>48</sup> And the benefits of this go beyond production and employment. This same study found that women-led firms in Thailand, Malaysia, and the Philippines hired 17% more female employees than their male counterparts. Yet the overall outcomes of reduced trade costs remain mixed. In a paper on female labor outcomes of border economic zones in the Greater Mekong Subregion, it was found for example that while women's earnings increased from cross border integration, it also increased vulnerability of the female workforce in those areas.<sup>49</sup> This suggests that targeted interventions remain critical to ensure SMEs and women-led firms benefit from trade costs trends in the region.

<sup>48</sup> APEC. 2013. "Access to Trade and Growth of Women's SMEs in APEC Developing Economies: Evaluating Business Environments in Malaysia—Philippines—Thailand."

<sup>49</sup> ADB. 2011. Earnings and Quality of Female Labor in the Border Areas of Viet Nam and Implications for Greater Mekong Subregional Cooperation.

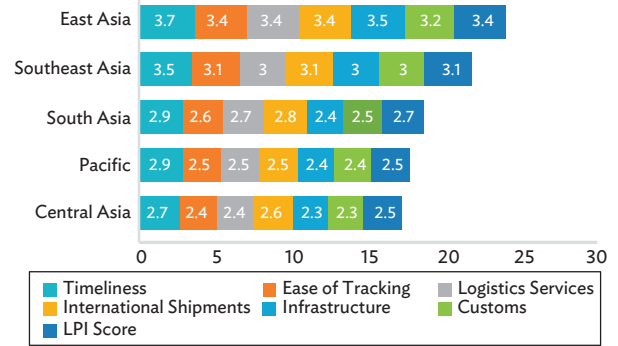
**Box 12: Networking Matters for Women-Led Firms**

A recent study of women-led firms globally suggested that the level of ownership of SMEs by women does not correlate with indicators of ease of setting up a business or whether there is a conducive business environment.

One of the intervening elements is networking. An APEC study found that among exporters, only 23% of women often interacted with business associations in comparison to 38% of men. Yet networking matters. The women-led firms that interacted with business associations were 24% more likely to respond that they would increase their operations in the next three years.

Sources: MasterCard Worldwide. 2010. *Women-owned SMEs in Asia-Pacific, Middle East, and Africa: An Assessment of the Business Environment*; and APEC. 2013. *Access to Trade and Growth of Women's SMEs in APEC Developing Countries*.

**Figure 23: Logistics Performance Index Components by Subregion, 2014**



Note: LPI scores are measured from 1 to 5, where 1 is the lowest or “poorest performance” and 5 is the highest or “best”.

Source: World Bank. Logistics Performance Index Database. <http://lpi.worldbank.org> (accessed 15 June 2015).

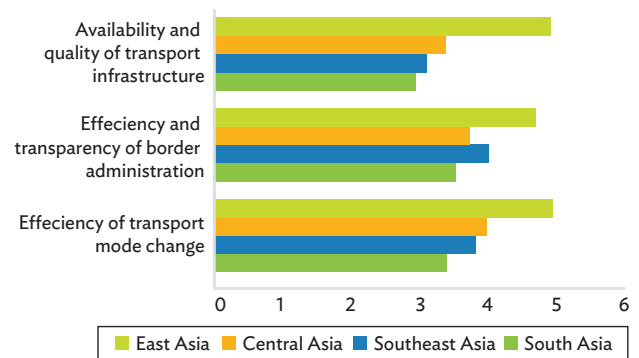
Logistics performance is an important determinant of the extent to which an economy is “trade enabling.” In the World Economic Forum’s Enabling Trade Index, most subregions lag behind developed economies in such variables as infrastructure quality, border administration, and efficiency of transport model change. Central, East, South, and Southeast Asia are generally on par with the Middle East, North Africa, and Eastern and Central Europe in these variables, leaving Latin America and Sub-Saharan Africa economies behind. South Asia in particular scores poorly in these indicators (Figure 24).

**3.2 Logistics Performance is Uneven**

One tool to analyze the drivers of trade costs is the World Bank’s Logistics Performance Index (LPI). East Asia does best in Asia and the Pacific, surpassing even the global average in 2014. South Asia (also above global average) and the Pacific (somewhat below it) have made greatest gains during the period the LPI has been measured.

Scores in the LPI components tend to be similar within subregions. East Asian economies do well in each area; the Pacific and Central Asia lag behind in each variable (Figure 23). Indicators also vary in importance by subregion, for example, inland infrastructure is especially critical for Central Asia’s landlocked economies, given the difficult geographic conditions.

**Figure 24: Quality and Efficiency of Infrastructure and Border Administration by Subregion, 2013-2014**



Note: Quality and efficiency scores are measured from 1 to 10, with 10 being the highest.

Source: World Economic Forum. Enabling Trade Database. <http://www.weforum.org> (accessed 15 June 2015).

### Box 13: South Asia Corridor Development

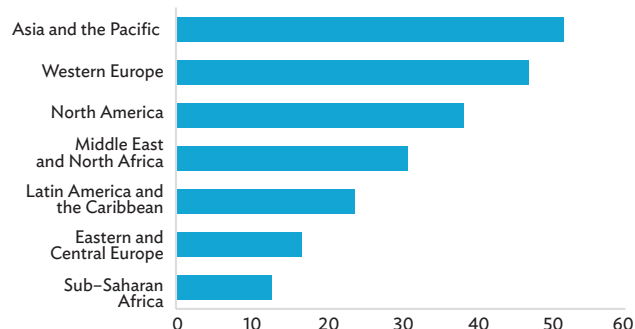
The \$47.67 million SASEC Trade Facilitation Program has the objective of enhancing the processing of cross-border trade by (i) developing modern and effective customs administrations that focus on assisting beneficiary countries in acceding to, and complying with, the provisions of the Revised Kyoto Convention, as well as helping them apply the World Customs Organization's Framework of Standards to Secure and Facilitate Global Trade; (ii) streamlining and making transparent regulations and procedures, which involves the development and upgrading of automated customs management systems, including the establishment of National Single Windows; and (iii) improving services and information for traders and investors through the development of trade portals and the establishment of trade facilitation committees in each country.

Source: ADB.

Much of world trade happens by sea. Asia and the Pacific is positioned well for this form of transport. It is a world leader in the Liner Shipping Connectivity Index, which captures how well countries are connected to global shipping networks (**Figure 25**).<sup>50</sup> However, the regional score is driven by a limited number of economies, including the People's Republic of China; Hong Kong, China; Singapore; the Republic of Korea; and Malaysia. Most subregions are the level of Latin America and the Caribbean. The Philippines, Bangladesh, Cambodia, and Myanmar are poorly connected based on this index.

The different subregional outcomes highlight the importance of tailoring AfT to particular economic circumstances—and more importantly, to ensure that best-practices are shared between subregions. Asia and the Pacific is in the unique position to have some of the best performers in the world in most indicators. But as this section illustrated, gaps remain.

**Figure 25: Liner Shipping Connectivity Index (0–157.1) by Region, 2014**



Note: LSCI measures how well countries are connected to global shipping networks. Scores range from 1 to 100, 100 being the highest and showing the greatest connectivity.

Source: World Bank. UNCTAD Liner Shipping Connectivity Index Database. <http://www.data.worldbank.org> (accessed 15 June 2015).

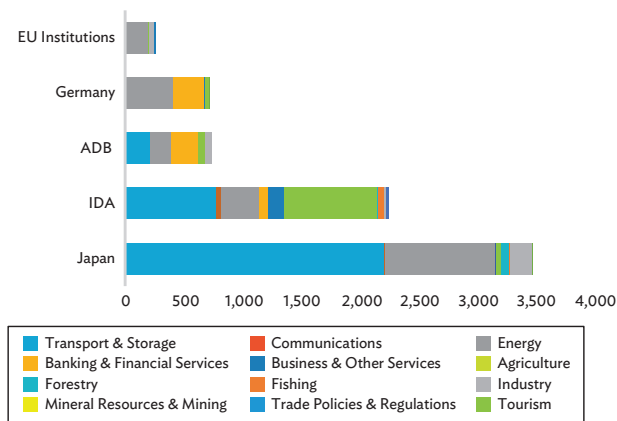
### 3.3 Aid for Trade: Transport Infrastructure Focus

Among all subregions, transport is the primary category of AfT disbursements (**Figures 26 and 27**). The heavy spending on transport and infrastructure is backed by evidence and demand. Empirically, 25% of delays in trade—the key driver of trade costs—are attributed to poor road and port infrastructure, while 75% is attributed to administrative obstacles such as customs and tax procedures, clearances, and cargo inspections.<sup>51</sup> This finding holds for all subregions except for the landlocked countries of Central Asia, where the efficiency of inland transport is critical. While containerization and intermodalism have reduced some of these cost elements, many others remain onerous.

<sup>50</sup> It is computed by the United Nations Conference on Trade and Development (UNCTAD) based on five components of the maritime transport sector: number of ships, container-carrying capacity, maximum vessel size, number of services, and number of companies that deploy container ships in a country's ports. For each component a country's value is divided by the maximum value of each component in 2004, the five components are averaged for each country, and the average is divided by the maximum average for 2004 and multiplied by 100. The index generates a value of 100 for the country with the highest average index in 2004. The underlying data are from Containerization International Online.

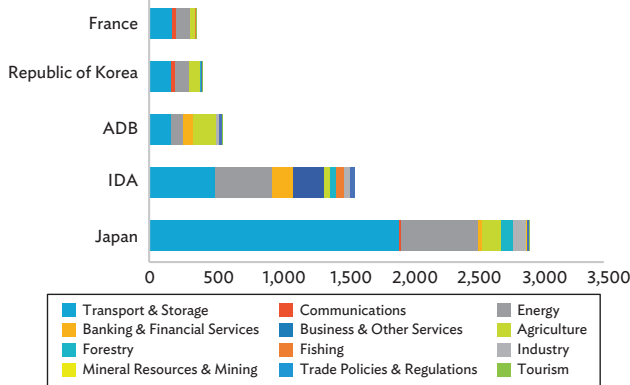
<sup>51</sup> Djankov, et al. 2006. Trading on Time. World Bank Policy Research Working Paper No. 3909.

**Figure 26: Aid for Trade Disbursements by Main Donors—South Asia (2011–2013 average, \$ million)**



Source: OECD. Aid for Trade Statistics. <http://www.oecd.org/> (accessed 10 June 2015).

**Figure 27: Aid for Trade Disbursements by Main Donors—Southeast Asia (2011–2013 average, \$ million)**



Source: OECD. Aid for Trade Statistics. <http://www.oecd.org/> (accessed 10 June 2015).

It is often challenging to understand where chokepoints in logistics lie and target policy accordingly. Yet this is critical for corridor performance. In Central Asia, ADB’s Central Asia Regional Economic Cooperation (CAREC) program has designed a methodology to capture data on the time and cost of moving freight within the CAREC region, particularly at border crossing points, to spur operating efficiency, reduce bottlenecks along CAREC corridors, and thus improve international and regional trade flows (**Box 13**).

**Box 14: Identifying Transport Bottlenecks in Central Asia Regional Economic Cooperation**

The physical evaluation deals with the condition of corridor infrastructure (including vehicles and cargo handling equipment) and its use, while the nonphysical evaluation examines the service factors (including the degree of automation) that affect the time and cost of moving goods from origin to destination. The nonphysical evaluation offers more insights into the trade facilitation issues, and allows the performance of corridors of similar length or characteristics to be compared, thereby fueling competition that will spur efforts to reach the desired transit times. Since 2009, the Corridor Performance Measurement and Monitoring methodology has evolved through experience to a point where it can capture a range of ground-level information—views, feedback, and assessments of important aspects of logistics performance—directly from freight forwarders and carriers, thereby providing a fuller understanding of the obstacles en route.

Source: ADB.

**3.4 Leapfrogging Trade Costs: The Promise of 3D Printing**

As traditional trade costs are coming down, the way that trade and production happens is changing quickly. In the 1990s, the IT revolution and trade liberalization around the world made it efficient for companies to coordinate complex activities by offshoring mass-production to low-cost emerging markets. The shift was dramatic. In the 1970s, 70% of global manufacturing was in the US, Japan, and Western Europe; by 2010, this share had dropped to 47%, with East Asia, Mexico, and Eastern Europe claiming much of the rest.

Offshoring shifted low value-added production to where it is most economically done, in low-wage countries proximate to ample supplies of parts and components. Yet this setting means that companies absorb additional costs related to shipping, logistics, inventory and supply chain management, and defects.

3D printing abolishes these problems by making it possible for each item to be made when it is needed, and made differently without any retooling. The cost savings can be significant. For example a leading defense contractor estimates that 3D printing enables it to produce some complex satellite components 48% cheaper and 43% faster.<sup>52</sup> And since digital designs are shipped electronically and printed at the assembly point, transport and distribution costs vanish, lowering retail prices considerably.

3D printing changes sourcing by freeing companies from considering shipping costs, tariffs, delays, and customs procedures when identifying quality suppliers. Alternatively, they can bring parts production back in-house. However, as robotics and automation advance alongside 3D printing, it will also play a role in companies' locational decisions. Instead of export-oriented production hubs with low-cost labor and proximate pools of suppliers, manufacturers are increasingly induced to make products where they are consumed.

In a recent survey of more than 100 industrial manufacturers, two-thirds were already using 3D printing. Several companies in Asia and the Pacific have set out to take advantage of 3D printing as manufacturers and parts suppliers, and several governments are actively buttressing the 3D printing industry and advanced manufacturing:

- In September 2014, the Republic of Korea Ministry of Science, ICT and Future Planning, and Ministry of Trade, Industry and Energy announced a forward-looking 3D printing industry development strategy aimed to make the Republic of Korea a leader in 3D printing worldwide.<sup>53</sup> One goal is to train 10 million creative makers by 2020, and to expand the 3D printing infrastructure on a national scale. This includes promoting Remote Order-based Production – access to printing services for people to easily purchase and use 3D-printing design drawings made by others through e-commerce. The government also seeks to promote the creation of the 3D-printable products by remote voice command from smart devices. This comes on the heels of an April 2014

announcement that the government would be investing W 2.3 billion (\$2.3 million) in 3D printing equipment and facilities so that companies could run training programs for their employees.

- In March 2015, the PRC Ministry of Industry and Information Technology, unveiled a National Plan for 3D printing, called “The Country’s Additive Manufacturing Industry Promotion Plan 2015–2016.”<sup>54</sup> The plan aims to develop a 3D printing-based industry by 2016. The plan is based on several pillars, such as ensuring that PRC businesses keep up with the overall level of technology of the international 3D printing market, reaching the international level of advanced 3D printing for aerospace and other high-level industries, and reaping and maintaining a large share of the international 3D printing market. The goal for the PRC 3D printing industry is to grow annual revenues at more than 30%, and establish 3D printing companies that grow highly competitive in global markets, in part through government-supported financing.
- In 2014, India launched its Make-in-India campaign to encourage companies to manufacture products in India in sectors such as automobiles, chemicals, IT, pharmaceuticals, textiles, ports, aviation, design manufacturing, renewable energy, mining, biotechnology, and electronics. Responding to the campaign, in March 2015, Stratasys, the world’s largest 3D printing company, set up its India operations by inaugurating its first 3D Printing Experience Centre in Bengaluru, which showcases its entire range of professional 3D printers, 3D production systems, and a broad matrix of specially engineered 3D printing materials. The Indian 3D printer market estimated to grow at an annual average of 20% between 2014 and 2019.

The Aft initiative, along with further global processes such as the implementation of the Trade Facilitation Agreement, needs to keep addressing the costs of moving goods in world trade. 3D printing is just one of the ways that trade is changing. In order to continue to support opportunities for small businesses and women-owned firms to engage in trade, addressing the costs that stand in the way of these new entrants in trade is paramount.

<sup>52</sup> “3D printers making jets, bikes now drive demand for metal,” BusinessMirror, 25 August 2014.

<sup>53</sup> Kim Joon-bae, Ministry of Science, ICT & Future Planning promotes Intelligent 3D Printing Infrastructure Integrated with Internet of Things (IoT),” 25 September 2014.

<sup>54</sup> Alec Hack, “Chinese government unveils ‘National Plan’ for development of 3D printing industry,” 2 March 2015.



## CHAPTER 4

# Pacific: Dynamics in a High-Cost Region

In 2013, the cost of internet access in Tonga fell 60% as the 872-kilometer (km) submarine fiber optic cable system linking Tonga to Fiji via the Southern Cross Cable was completed.<sup>55</sup> It was one element of the \$32.8-million Pacific Regional Connectivity Project co-financed by ADB and the World Bank. Before 2013, Tongan firms relied on a satellite connection that was slow, unreliable, expensive and not suitable for business use.

Today, Tongan firms are able to more easily and quickly move online and connect to distant customers. The business environment has also improved as the implementation of an online company registration system in 2014 reduced the time required to start a business from 14 days to one.<sup>56</sup> Yet, less than 10% of Tongan firms have their own website compared to the average of more than 40% for Asia and the Pacific as a whole.<sup>57</sup>

These three steps—building the infrastructure, creating an enabling environment, and translating lower costs into the export process—is how AfT can enable exporters in the geographically distant economies of the Pacific to better connect with international commercial flows. But, is this happening? And how are exporters responding?

This special section of the 2015 AfT regional report takes an in-depth look at the experience of Pacific exporters. Despite challenges inherent to the region's geography, there is a vibrant set of exporting firms that succeed in boosting production, increasing employment and empowerment of women, and which, simply by doing business in such small markets, impact the direction their economies are taking.

We explore the dynamics of trade growth in five dimensions—trade dependence, trade costs, AfT, digital economy, and niche exports. The objective is to understand how to go forward with AfT in a way that builds off existing programs, better integrates inclusiveness, and accounts for the realities of trade in a high cost region.

## 4.1 High Dependence on Trade Driven by Imports

Pacific economies are highly dependent on trade. While the Pacific subregion is about equal to the regional average in the proportion of trade to GDP, the balance of imports and exports is very different. In the Pacific, trade dependence is a story about high imports and relatively inconsistent exports.

Over the past decade, subregional imports soared five-fold from \$5 billion in 2004 to a high of \$25 billion in 2011—on the back of food and energy price hikes and high capital expenditures in the post-crisis years. They have remained elevated since.

Imported inputs are a critical feature of production in the Pacific. This is particularly true for Fiji, the Federated States of Micronesia (FSM), Samoa, Timor-Leste, Tonga, and Vanuatu where from 70%–100% of firms rely on imports for production. This is higher than for East Asian firms or firms in other emerging and developing regions (**Figure 28**). Higher-quality imported inputs make

<sup>55</sup> 60% was the reduction in price for a month of service per GB. Bandwidth was increased from approximately 20 megabits per second to 10 gigabits per second. <http://www.worldbank.org/en/news/feature/2013/12/10/conne>

<sup>56</sup> ADB 2014 “Tonga’s Innovative Online Business Registry Goes Live – ADB.” as cited in PBIF (2015).

<sup>57</sup> World Bank Enterprise Surveys.

regional exporters more competitive in world markets, and thus are welfare and productivity improving.<sup>58</sup>

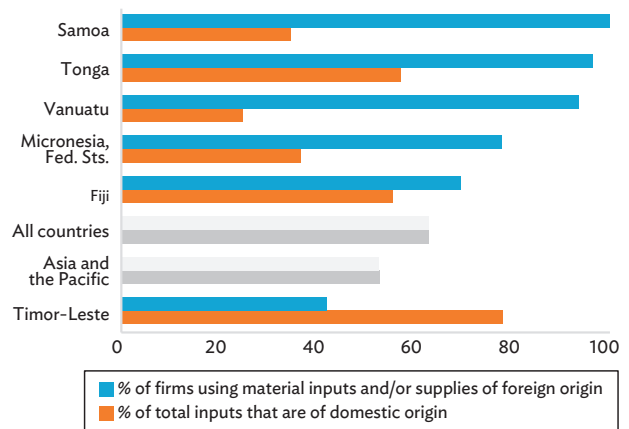
Yet, in conjunction with limited export growth, high import dependence is reflected in the region's steep trade deficits. The regional trade deficit widened considerably during the 2008–2009 global financial crisis. Exports from the Pacific dropped 23% in 2009, almost twice as much as the 12% average decline in world trade. In 2011, the Pacific regional trade deficit reached 70% of subregional GDP, up from below 10% a decade ago (Figure 29). Positively, a subsequent rise in commodity prices has enabled some resource exporters such as Papua New Guinea to expand exports.<sup>59</sup>

However, trade deficits persist particularly among economies that do not export natural resources, being usual occurrences in Samoa, Tonga, and the smaller economies.

The direction of trade in the Pacific is strongly oriented towards Australia and New Zealand. However the emergence of Asia as a trading partner for the Pacific is now beginning to be explored. While Australia and New Zealand remain the primary source of imports, East Asian economies have reaped parts of their market share over the past decade. The Republic of Korea, Singapore, and the PRC have emerged as major sources of imports in the region; Japan's share has also grown.

A 2014 survey of firms in the Pacific revealed a great deal of interest and increasing connections with Asia. Better trade linkages between Asia and the Pacific could create new trade and export opportunities, particularly in tourism.<sup>60</sup> Just how the Pacific can proactively develop stronger economic links, particularly trade links, is the subject of ongoing ADB research.<sup>61</sup>

**Figure 28: Share of Firms Using Materials Inputs and/or Supplies of Foreign Origin and Share of Total Inputs that are of Foreign Origin—Selected Pacific Economies (%)**



Source: Source: World Bank. Enterprise Surveys Data. <http://www.enterprisesurveys.org> (accessed 15 June 2015).

**Figure 29: Pacific Trade Balance as % of Subregional GDP, 2002–2013**



Source: ADB calculation using data from International Trade Center and United Nations.

<sup>58</sup> There is empirically a strong positive relationship between imports and firm productivity: firms that import are more productive. Sharma, and Smyth. 2009. "Is Economic Growth Export-Led or Import-Led in the Pacific Island Countries? Evidence from Panel Data Models." Monash University Development Research Unit Discussion Paper DEVDP 09-15.

<sup>59</sup> Chen, Hong, Lanieta Rauqueque, Shiu Raj Singh, Yiqun Wu, and Yongzheng Yang. 2014. "Pacific Island Countries: In Search of a Trade Strategy." IMF Working Paper, WP/14/158.

<sup>60</sup> See International Monetary Fund. 2014. Regional Economic Outlook: Asia and Pacific - Sustaining the Momentum: Vigilance and Reforms (April); Chen, Hong, Lanieta Rauqueque, Shiu Raj Singh, Yiqun Wu, and Yongzheng Yang. 2014. "Pacific Island Countries: In Search of a Trade Strategy." IMF Working Paper 14/158

<sup>61</sup> Helble, Matthias. 2014. "The Pacific's Connectivity and Its Trade Implications" Asian Development Bank Institute Working Paper No. 499 (September 2014).

## 4.2 Trade Costs Falling, But Finance Remains a Significant Constraint

How, then, have trade costs evolved in the subregion? And how does the subregion compare with others around the world? In short, costs are falling, but remain high relative to comparable economies.

The Pacific has a challenging geography. It is a region in which ocean exceeds land mass by an average factor of 300 to 1.<sup>62</sup> Even in comparison to other regions with many Small Island Developing States (SIDS), the Pacific is disadvantaged. For example, the weighted average distance from major markets for Pacific SIDS is 11,500km in comparison to Caribbean SIDS where it is only 8,200km.<sup>63</sup>

Compounding distance from major markets is the Pacific's distance from the major East-West maritime trade belt along which 85% of global containerized trade flows. This leaves Pacific countries in "no position to share in gains that may be generated" along this belt.<sup>64</sup> To illustrate, using a 10 year average of expenditures on international transport as a share of import value, the average SIDS paid 2% more than world average but, Solomon Islands pays more than 17% above the global average.

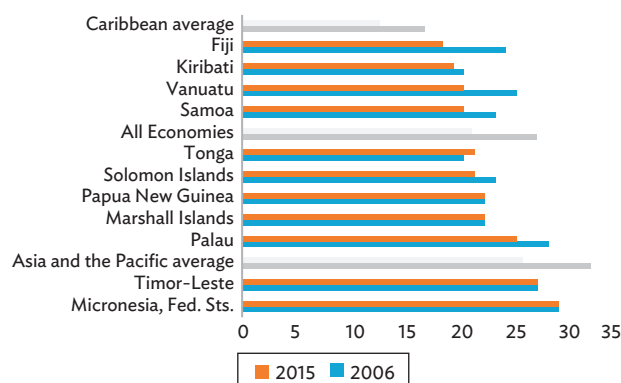
Despite these constraints, the three major indicators of trade costs—time to export and import, logistics performance and shipping services—have all improved over time for the subregion. The Pacific is doing well in comparison to Asia and the Pacific (where landlocked states drive up cost averages). But in comparison to similar countries in the Caribbean, costs remain high.

Time to both export and import products has declined in Fiji, Vanuatu, and Palau. Kiribati, Solomon Islands,

and Samoa have lowered times to export, while Tonga has reduced time to import. Times to trade remain elevated in the FSM (30 days to export and 31 to import), Timor-Leste (28 to export and 26 to import), and Palau (26 days to export and 30 to import), among others.

In comparison to the Caribbean, even the best performing economies—Fiji, Kiribati, and Vanuatu on the export side, and Solomon Islands, Kiribati, and Fiji on the import side—lag far behind. Where it takes 19 days to export and 22 days to import in Fiji, the Caribbean average is 13 days for an export and 14 days for imports (**Figure 30**).

**Figure 30: Number of Days to Export in the Pacific—Selected Economies, 2006 vs. 2015**



Source: World Bank. Doing Business Database. <http://www.doingbusiness.org>; and World Bank. World Development Indicators Data. <http://www.data.worldbank.org> (both accessed 15 June 2015).

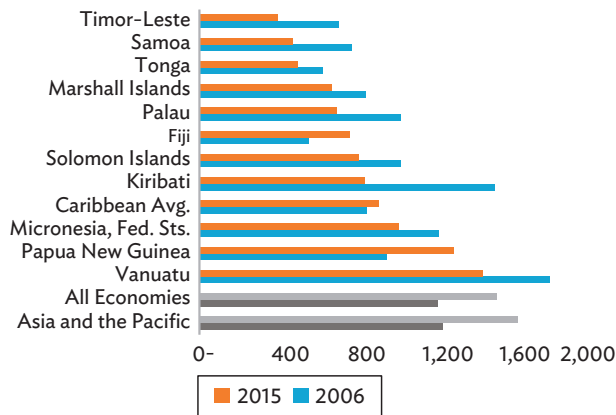
<sup>62</sup> <http://siteresources.worldbank.org/INTPACIFICISLANDS/Resources/3-chapter+1.pdf>

<sup>63</sup> UNCTAD secretariat (2014) Small island developing states: challenges in transport and logistics

<sup>64</sup> UNCTAD (2014) Review of Maritime Transport. Pp. 107. The Pacific in this case is even more disadvantaged than other SIDS in that as a region, all countries are distant and not served by this belt. Caribbean SIDS lie at a cross point in the belt and African SIDS vary in their distance from the belt.

Shipping services have become more fluid and less costly in the region. Costs to import and export a container have declined and are in most countries, below the levels of the Caribbean (Figure 31).

**Figure 31: Costs to Export a Container in the Pacific—Selected Economies, 2006 vs. 2015 (\$ per container)**



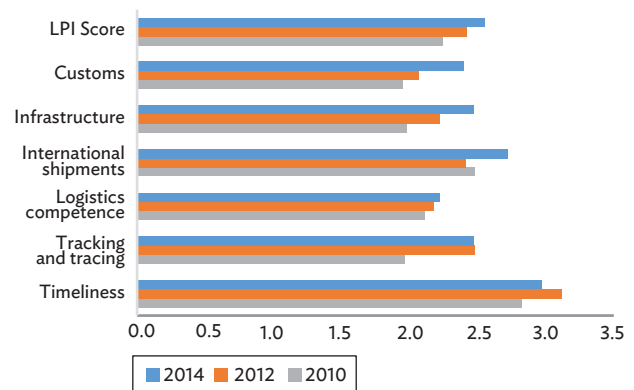
Source: World Bank. Doing Business Database. <http://www.doingbusiness.org>; and World Bank. World Development Indicators Database. <http://www.data.worldbank.org> (both accessed 15 June 2015).

However, interviews with exporters revealed that because of the very small volume of many exports, even filling a single container may be a prohibitive prospect. In a 2015 survey, 62% of exporting firms said that the main challenge to their export business is high freight costs, particularly their difficulty to achieve critical mass. Some exporters have begun collaborating to help fill bulk containers in shipping ports, though this can be challenging. One exporter from Papua New Guinea is building a warehouse in Malaysia from which to base his global exports. This is the only way to be cost competitive in shipping his products.

In the Logistics Performance Index (LPI), the three Pacific economies for which data are available—Fiji, Papua New Guinea, and Solomon Islands—underperform vis-à-vis countries of similar levels of development.<sup>65</sup> The three

economies lag behind across the board, though the timeliness indicator is stronger across the countries. The overall LPI scores are very similar in these economies and all countries have made improvements over time (Figure 32). These improvements have also taken Fiji and Solomon Islands up the global rankings. Globally, Fiji ranked 111th of 160 countries in 2014 (up from 144th in 2010), and Solomon Islands ranked 106th in 2014 (up from 135th in 2010). PNG ranked 126th in 2014, lower than 124th in 2010.

**Figure 32: Logistics Performance Index Components in Fiji, 2010-2014**



Note: LPI scores are measured from 1 to 5, where 1 is the lowest or “poorest performance” and 5 is the highest or “best”.

Source: World Bank. Logistic Performance Index Database. <http://lpi.worldbank.org> (accessed 15 June 2015).

Transportation infrastructure and logistics are also among the top priorities for Pacific firms. In 2014, the Government of Australia Department of Foreign Affairs and Trade (DFAT) and Pacific Islands Trade and Invest carried out a survey of Pacific firms’ trade activities.<sup>66</sup> When asked about the key barriers, both companies that export and those that do not currently export cited access to finance, capacity constraints, fuel prices, and international competition. However, when asked about specific disadvantages, exporters identified high cost of doing business, small domestic and regional markets, and poor transport infrastructures as key factors. More competitive transport costs topped the list of activities

<sup>65</sup> Refers to the timeliness of shipments reaching their destination in the scheduled time.

<sup>66</sup> The survey covered 352 firms, of which 270 export or sell products or services to overseas customers. The range of exporters throughout the Pacific Islands is diverse, covering agribusiness, tourism, manufactured goods and services. These exporters include small, medium and large businesses, many with extensive export experience, but also a high proportion relatively new to exporting.

that would be helpful for exporters, with 40% of exporters citing transport as a key area of focus.

Access to finance is consistently identified as one of the greatest barriers to business. Difficulties in accessing finance for trade vary by subregion. In the Pacific there are few local banks, many countries do not have development banks, and trade finance guarantee programs are relatively limited (**Box 15**).<sup>67</sup>

### Box 15: Quotes from Exporters on Trade Finance Limitations

A Vanuatu-based exporter of agricultural products with less than 20 employees and with company revenues below A\$100,000 remarked, “Agriculture is considered a high risk activity and since we rely on agriculture for raw materials the option of raising funds via regular bank loans is uneconomical, *i.e.* 16% to 22%. The other way for banks to say no is to say yes with super high interest rate.” Another small exporter of business services based in the FSM had said this about the difficulty in obtaining export finance, “Too much paperwork to put in without any guarantee of approval.”

#### Bank-Based Interest Rates in Selected Countries

Tonga	13.5%–17%
Papua New Guinea	14.5%–31.5%
Vanuatu	10%–13%
Fiji	10.2%

Note: does not account for development banks, discounted or subsidized rates or microfinance.

Source: ADB. 2015. *Promoting Gender Equality and Women’s Empowerment*.

There are two additional compounding factors in the Pacific. First, the majority of Pacific exporters sell agricultural products. This is a product for which obtaining finance was shown to be significantly more difficult relative to those that sell manufactured goods, tourism, or other services. Second, firm sizes are

smaller. The same survey showed that exporting firms with revenues less than A\$100,000 have even greater difficulty to obtain finance. Among countries, difficulty in obtaining finance is even more pronounced, for example in the Solomon Islands compared with the other economies in the region; and this holds true not only for export financing but for the general business needs as well of Solomon Island exporters.

Finance is a particular problem for women led-firms. Among women entrepreneurs surveyed in Fiji, Papua New Guinea, Samoa, the Solomon Islands, Tonga, and Vanuatu, few used commercial bank finance. One cause was that women lacked land rights and therefore had fewer assets to pledge as collateral on loans. It was also found that among this population, only Papua New Guinea had a specific program to address women in SMEs, through the Papua New Guinea Development Bank. Some commercial banks have SME programs, but only one—Westpac in Fiji—supports women entrepreneurs in various ways through financial literacy and training workshops.<sup>68</sup>

One way that firms are seeking to overcome high costs of trade is by moving online. Indeed, 30% of surveyed exporters had set out to create an enhanced website/online presence, improve business processes, and make investments in innovation to pursue export markets. This is possible because of the focus AfT has taken in the region.

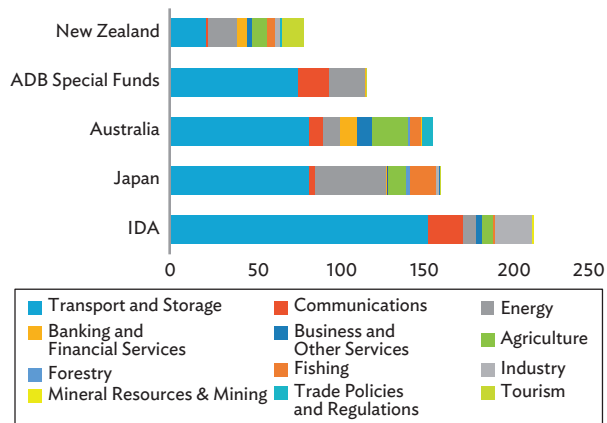
## 4.3 Aid for Trade Profile: Building the Connectivity Backbone

In the Pacific, as in Asia and the Pacific in general, AfT goes mainly towards infrastructure (**Figure 33**). There are two important features of AfT in the Pacific that set it apart. The first is that while transport spending is paramount, communications spending is a relatively large proportion. This reflects the key role of ICT connectivity in regional connectivity.

<sup>67</sup> ADB’s Trade Finance Program has committed to expanding their guarantee program through the Pacific. The process has begun in 2015.

<sup>68</sup> ADB (forthcoming) *Promoting Gender Equality and Women’s Empowerment* (TA 6143).

**Figure 33: Aid for Trade Disbursements by Main Donors -- Pacific (2011–2013 average, \$ million)**



Source: OECD. Aid for Trade Statistics. <http://www.oecd.org/> (accessed 10 June 2015).

The focus on ICT connectivity reflects the different needs of particularly distant regions such as the Pacific. Connecting firms to transport routes via traditional routes is critical. However, connecting them to the internet can reduce distance to nearly zero for some transactions.

The driver of improvements in time to trade is transport infrastructure support. Regional connectivity is limited by the quality of air and sea ports, both of which are being actively supported with donor programming (**Box 16**).

#### Box 16: Transport Infrastructure in Fiji

ADB's Fiji Ports Development Project comprised wharf improvements at the ports of Suva and Lautoka, the main gateways for Fijian trade. The project improved the wharf's load-bearing capacity for more productive cargo-handling equipment, including the newly installed mobile cranes.

Productivity improved from 5.23 containers per vessel hour in 1998 to 8 containers per vessel hour by 2011. Immediately before the new harbor cranes were commissioned, rates of around 11 moves per hour were being reported for larger vessels, with a range of 6 to 12 moves per hour. Since the terminal reorganization and commissioning of the cranes, exchange rates of up to 20 moves per hour have been achieved.

Source: ADB.

The second difference is the growing integration of trade facilitation as a proportion of trade support. This is illustrated by business services and trade policies as key spending elements (**Box 17**).

#### Box 17: Business Advisory Services in the Pacific

The Pacific Business Investment Facility is an \$11-million Trust Fund created in 2014 with Australian Government support. It primarily finances business advisory services to SMEs seeking commercial finance. The trust fund will also provide concessional loans to SMEs, in parallel with commercial finance, and facilitate links to trade and supply chain finance. Advisory services may include support for (i) business planning; (ii) financial management, including determining short- and long-term financing needs and potential sources; (iii) corporate governance; (iv) marketing; and (v) specialized technical skills for product development, product certification, and export. Targeted SMEs have at least five employees and seek \$100,000–\$1 million in finance, but typically less than \$300,000. The design includes measures that gives special attention to SMEs owned and managed by women.

Source: ADB.

## 4.4 Digital Trade Opportunities in the Pacific

The Pacific is one of the most high-cost regions for internet and broadband services. Yet as we saw in Chapter 2, trade is increasingly moving online. And even where firms remain bound to a physical store, moving online is a good indicator of internationalization. ADB has recognized the potential of internet connectivity for the subregion and has a longstanding project pipeline related to submarine cable systems (**Box 18**). These have directly impacted the cost and the availability of access in ways reflected in how firms do business.

**Box 18: Selected ADB Submarine Cable Projects in the Pacific**

The **North Pacific Regional Connectivity Investment Project**. The Republic of Palau and the Federated States of Micronesia (FSM) jointly initiated a submarine internet cable project to establish broadband internet connectivity to Palau and Yap State of the FSM by connecting to the major cable hub of Guam. Currently Palau and Yap rely entirely on costly geo-stationary satellite links for internet connectivity and hence have very limited internet penetration.

The **Solomon Islands Broadband for Development project** aims to build a fully operational submarine cable system through an international cable between Honiara to Sydney and domestic extension connecting Malaita and the Western Province. The project will increase internet connectivity in a country currently dependent on limited capacity and expensive satellite.

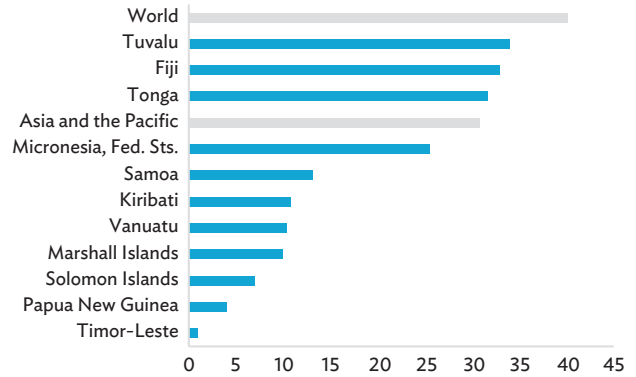
Source: ADB.

The Pacific subregion can benefit substantially from e-commerce. First, it can enable a larger set of firms to export and increase their export intensity, and diversify export markets. E-commerce also enables firms to shop for the best deal globally, and thus lower price and increase quality of imported inputs—which is central to export competitiveness.

Given their late arrival, Pacific economies lag behind other subregions in the success drivers for e-commerce. Internet use in the region is well below regional and global averages (**Figure 34**). Only about a third of people in Tuvalu, Fiji, and Tonga use the internet. Fixed broadband use is even lower—with the exception of Tonga, fewer than 5% of Pacific islanders use fixed broadband (**Figure 35**).

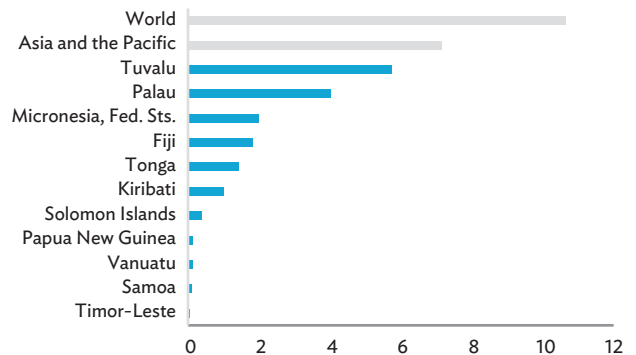
Mobile phone uptake is also slow in the subregion.<sup>69</sup> While the mobile penetration rate is high in Fiji, only 50% of people in Timor-Leste, Vanuatu, Solomon Islands, and Tonga have mobile phones, and fewer than 40% do in PNG, the FSM, Tuvalu, and Kiribati. Positively, the price of mobile subscriptions has dropped in Fiji, Solomon Islands, Tonga, and Vanuatu (**Figure 36**).

**Figure 34: Internet Users in the Pacific (per 100 people) by Economy, 2013**



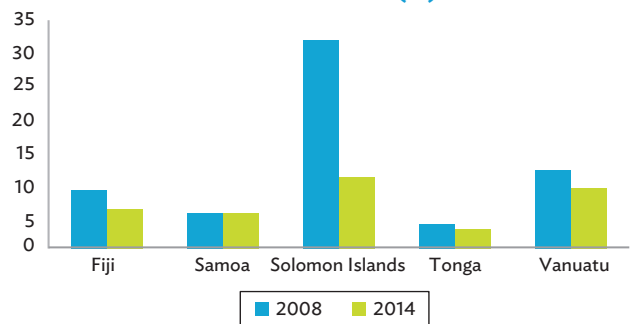
Source: World Bank. World Development Indicators Database. <http://www.data.worldbank.org> (both accessed 15 June 2015).

**Figure 35: Fixed Broadband Internet Subscribers (per 100 people) in the Pacific by Economy, 2013**



Source: World Bank. World Development Indicators Database. <http://www.data.worldbank.org> (both accessed 15 June 2015).

**Figure 36: Mobile Price as % of Per Capita Income, 2008 vs. 2014 (%)**



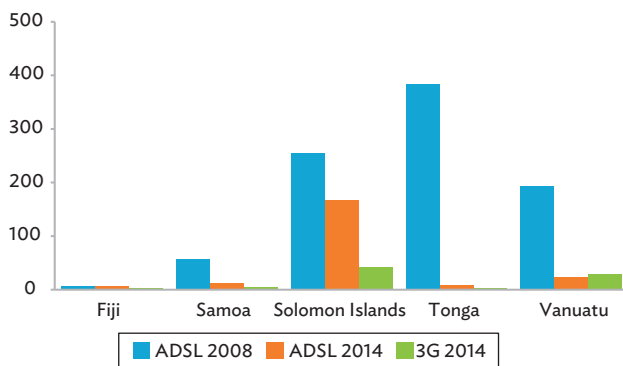
Source: Pacific Region I Infrastructure Facility. Draft January 2015. *Impact of ICTs in the South Pacific: Comparative Report*.

<sup>69</sup> In Fiji, mobile communications are available for the majority of the population with more than 100% of SIM penetration, and mobile broadband is available for 55% of the population.

Mobile broadband has expanded internet access in the region, after being recently launched in several Pacific countries. Mobile broadband is much more flexible than fixed broadband. Unlike fixed broadband that requires a monthly subscription, mobile data subscription can be obtained as needed. Mobile broadband to connect can be used to laptops while on the move, whereas wired broadband can be used only in one location.

The first network was introduced in November 2008 in Fiji with most recent in December 2013 in Tonga. Most networks are based on 3G technology, however, Fiji’s mobile operators have also launched 4G networks. As a result, average download speeds for Vodafone Fiji subscribers increased over 500% in three years. At \$44 per month, average mobile broadband prices are 57% below entry-level fixed broadband plans in the subregion, and provide far more flexibility. The spread of mobile broadband has pressured fixed broadband prices down (Figure 37). The average fixed broadband monthly subscription dropped from \$688 in 2008 to \$103 in 2014.

**Figure 37: Entry-Level Fixed and Mobile Broadband Prices (1GB Minimum Data) as % of Per Capita Income, 2008 vs. 2014**



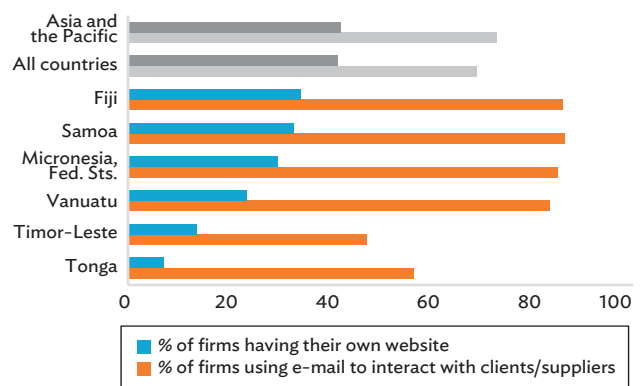
Source: Pacific Region Infrastructure Facility. Draft January 2015. *Impact of ICTs in the South Pacific: Comparative Report*.

While these trends are promising, there are a number of other areas that require work for the subregion to take advantage of digital trade and e-commerce. Many firms do not have websites, let alone those that can be used interactively by foreign customers to purchase local products. Within the subregion, Fijian firms are most active online (Figure 38). 34% of Fijian firms have their own websites—above the 30% average in Asia and the Pacific—and 86% of Fijian firms use email to engage with

clients and suppliers, also above the 63% regional average. To be sure, the use of online tools increases with firm size. For example, of large Fijian companies with over 100 employees, 73% have their own websites, and 98% use email to engage with clients and suppliers.

In May 2014 Pacific Exporters Survey, data showed that firms that are active online are not only smaller and newer, but have a greater concentration of female executives under 45 years old. More important, this younger group of women business executives put a greater weight to IT or communications infrastructure an investment disadvantage. This suggests that adoption of ICT may also be a factor of age and familiarity with the platform—and that among women who hold other household obligations as they run the business, they see greater potential of ICT to expand their market reach and support earnings.

**Figure 38: Share of Firms that Use their Own Website and that Use E-Mail with Clients and Suppliers—Selected Pacific Economies, 2014 (%)**



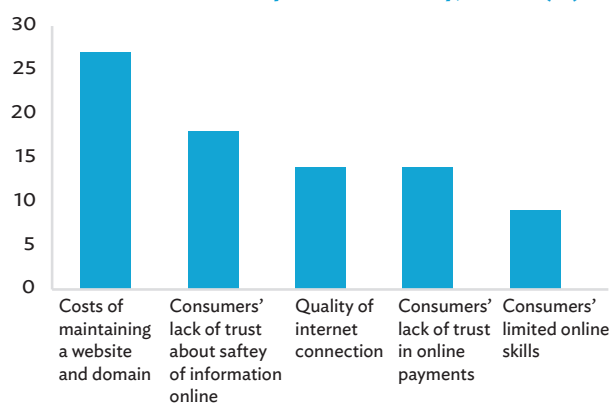
Source: World Bank. Enterprise Surveys Data. <http://www.enterprisesurveys.org> (accessed 15 June 2015).

These findings are in line with other data. In April 2015, ADB surveyed 33 small business exporters across the Pacific on export and online activities. The survey revealed that the firms typically traded in the subregional market, or with Australia or New Zealand. About 95% of the firms planned to expand to other export destinations in the next 3 to 5 years, while 91% planned to expand the type of products firms offer to current export markets in the next 3 to 5 years.

All together 29 firms reported to have some type of online presence. Nearly half used Facebook for their online presence; a third used their own websites, and only one firm used Twitter and Instagram. Some 62% of the firms reported that they use their Internet presence to generate sales. The main challenges for firms with websites included cost of maintaining a website, consumers' lack of trust in the safety of online data, and poor quality of Internet connection (**Figure 39**).

For firms that did not have a website they cited reasons including the perceived cost of internet access and complexity of setting a site up. However, most companies that said they planned to start selling online within the next three years, while four companies said they would not. Some governments have sought help firms move online. The Tourism Authority of Samoa began a program to list some firms online through their website, for example.

**Figure 39: Main Challenges to Increasing Sales Online—Pacific Exporters Survey, 2015 (%)**



Source: ADB Pacific Exporters Survey, May 2015.

One way in which online firms differ from exporters in general is in the source of their purchasing and sales. The survey suggests that online sales and purchases are mostly with foreign buyers and sellers. Over half of the respondents reported they sell online to foreign customers only; 10% sold online to domestic customers only; while a third sold online both to domestic and foreign customers. This is an unsurprising result considering the small size of the subregional economies' domestic markets, but also considerably different from the Enterprise Survey results, which show that Pacific exporters' sales are overwhelmingly domestic. This

suggests the internet enables the region's entrepreneurs to reach foreign buyers.

## 4.5 Niche Products: A Growing Strategy

High trade costs, geographic remoteness and limited productive capacity seem would appear to create an environment that is not conducive to trade as an engine of growth. In the Pacific, however, exporters have absorbed these elements in the production process and begun moving into niche markets. Even where exporters focus on agriculture, there is increasing activity around segmenting markets. In this section we look at some of the ways exporters have succeeded in overcoming trade costs via niche market orientation.

**Strategies.** Among Pacific producers, there are three primary niche strategies that are employed. These include differentiating via certification or quality standards, via responsive relationships with the buyers, and by using a community based business model.

Donors have been active in supporting quality standards and certification processes among Pacific exporters. This is especially important in agriculture, which remains one of the subregion's biggest exports. Many agricultural exports do not appear to be marketed as niche, but fulfilling certifications such as hazard analysis critical control point—increasingly demanded by buyers—enables them to command higher prices. The cost of compliance with such standards is high and often requires traceability (**Box 19**).

### Box 19: Tongan Firms Focus on Adding Value

Nishi Trading, a Tongan exporter of vegetables and root crops, said that while the business is surviving despite high freight costs via sea and air and infrequent travel schedule amongst other challenges, the way to go for them is to focus on adding value to current product lines and invest in highgrade packaging facilities. The firm recently invested in a hazard analysis and critical control points (HACCP) facility that has the potential to increase value added goods above their current product lines. The facility is also open to all exporters and farmers for their use. The next step is technical training for processing and facility equipment upgrading.

Source: ADB.

A responsive relationship with the buyer is a second hallmark of niche production. Particularly where the quantity produced is small, the ability to adapt to changing demands is key to sustaining the relationship. This benefits both parties. In the ADB survey, a producer of noni juice from Cook Islands recently purchased a bottling facility in response to a request, and with help from, her major buyer.

Finally, in the Pacific, there is a strong tendency in most countries towards a community-based business model.<sup>70</sup> That is, the objective of the business is not purely profit, but community benefits that stem from increased employment, skills development of the population, and raising the overall standard of exports from one's area or country. Interestingly, this drove product diversification in some cases (**Box 20**).

### Box 20: Upskilling as a Feature of Community-Based Development

Amruqa is a Papua New Guinea (PNG)-based exporter of spices and essential oils. Providing employment for the community has been the driver of innovation and diversification in the company. Yet it is also a challenge due to the lack of skilled managers available. The company is leading efforts to create "Centers of Excellence" in the areas of expertise that they have developed in an effort to share knowledge and increase production in PNG. Amruqa's founder stresses the need for skilled management assistance in order to ensure that firms with development-related business models are able to grow employment and decent work.

Source: ADB.

**Opportunities.** Both interviews and evidence about the niche experience revealed five areas where the production and export process could benefit from additional donor support or optimized procedures.

The first is support for logistics suitable for small producers. Many niche producers, and even larger producers in the Pacific struggle to regularly fill a shipping container. There is some movement around this – in the Cook Islands, exporters coordinate to share

containers. In PNG there is a startup that is seeking to make this coordination process electronic. But there is no systematic program that seeks to optimize small-batch export prices.

The second is that trade finance costs remain prohibitive for many SMEs. In the ADB sample, only about half had ever used trade finance, and follow up interviews revealed that interest rates averaged around 12%-15%, peaking at 22%. Most use some system of pay-in-advance with their buyers. This limits diversification and expansion. And in addition, the knowledge about this cost stops some firms from even trying to apply which limits formalization. There are some donor programs that subsidize interest rates but these are often highly specific to a sector or a city.

The third is that the identification of buyers is not systematic. In part this reflects the isolation of the subregion and the impact of low internet connectivity. Search costs are extremely high and only now starting to come down for some countries. A survey of exporters about their first export market revealed that contacts were highly random. There are some efforts by PT&I for example which seek to match exporters with buyers particularly in New Zealand and Australia (**Box 21**). However these only impact a small number of exporters.

### Box 21: Identifying Customers From a Firm in Cook Islands

Rito Cook Islands is a producer of coconut oil products. The distance from major markets, including within the subregion often makes shipping cost-prohibitive.

The firm has received donor assistance from the Increasing Agricultural Commodity Trade (IACT) program to upgrade formulations, branding and packaging. The program helped them to identify and profile their customers to target them more precisely. Most of his customers now are tourists who return home and contact him via email. He hopes to further diversify his customer based by including a PayPal setup once the firm's website is upgraded. Customers have been largely limited to New Zealand because payment options from the US or Australia are too expensive.

Source: ADB.

<sup>70</sup> This has interesting implications for the literature on entrepreneurship. The fact that entrepreneurs persist in running businesses despite low risk-adjusted returns. One explanation is that there are nonpecuniary benefits from their activities, though the actual driving forces are unclear (see e.g. Astebro, Herz, Nanda and Weber (2014) Seeking the roots of entrepreneurship: insights from behavioral economics. JEP.).

The decline in search costs that the internet has introduced opens the door to a wider range of niche exports than might otherwise have been generated in the more traditional trade process.<sup>71</sup> Optimizing websites can help directly with this process. One particularly successful online entrepreneur mentioned that she has been approached by many colleagues interested in learning how to do the same. The demonstration effect is clearly powerful in the case, but follow-through is missing.

The fourth and fifth opportunities are related. Fourth is that the growing global market for natural and organic products has clearly had an impact on exporters in the Pacific. Many have moved into coconut-based cosmetics and employ the geographic isolation of the region in marketing. This is a large opportunity for the region. However it is also not being used optimally (**Box 22**).

The fifth opportunity relates to one way that this natural environment could be exploited—Geographic Indications. This is a technical certification process which needs market identification and government involvement, but which can have significant and more importantly, long term, economic returns. Two markets that would seem well suited to this are noni and kava. Both of which have reasonable export growth and are native and specific to the Pacific.

### Box 22: Promoting Agribusiness in Samoa

The Samoa AgriBusiness Support Project is designed to promote the commercialization and export of agricultural produce and processed agricultural products along agri-value chains. The project provides both business support services and financing to agribusinesses, both identified as major constraints to private sector agribusiness development and to exports. The financing leverages credit from local banks.

Most agribusinesses in Samoa are small-scale, family-owned enterprises with fewer than 400 employees. However, they provide income-earning opportunities for many smallholder families who supply raw materials, and act as inclusive businesses. The total project cost is \$10.34 million, with ADB providing a \$5 million grant, and contributions coming from the private sector, participating banks, and the Government of Samoa.

Source: ADB.

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<sup>71</sup> Bar-Isaac, Caruana and Cunat (2012) Search, Design and Market Structure, AER.