

PART I

Reducing trade costs in Asia and the Pacific:

Key findings and the way forward

A. Overview of trade costs in developing countries

1. Trade cost trends across Asia-Pacific subregions

The ESCAP-World Bank Trade Cost Database is the first database of its type to systematically measure bilateral trade costs across countries and over time. It provides estimates of trade costs across 178 developed and developing countries, annually, during 1995-2012.⁴ The systematic bilateral trade costs are computed using the inverse gravity model (see Novy, 2013), which estimates trade costs using data on bilateral trade and gross national output, as inputs.

Trade costs in this database are presented in ad valorem equivalents (i.e., they are expressed as a proportion of the estimated value of the good concerned). The interpretation of trade costs is as follows: trade costs are inferred as being higher when countries trade more domestically than they do internationally, and lower when they trade more internationally than they do domestically. This is because if trade costs vis-à-vis another country fall then some of the production previously consumed domestically will be shipped overseas.

The approach by Novy (2013) to measuring bilateral trade costs has several advantages over alternative methods. First, it is comprehensive in that it encompasses all costs involved in trading internationally with another partner (i.e., beyond the national border) relative to those involved with trading intra-nationally (i.e., domestically). Second, it has the advantage of not requiring an explicit, predefined list of potential trade cost factors for estimation.⁵ Some trade cost factors – such as tariffs and transport costs – can be readily measured; however, other trade costs are more difficult to quantify (e.g., language barriers, information costs, security costs, regulatory barriers, heterogeneous business and investment conditions, access to financing and behind-the-border factors). The approach to measuring trade costs developed by Novy (2013) also has the advantage of calculating a “top-down” trade cost measure that overcomes these obstacles, because it captures both observed and unobserved sources of trade costs. Third, the trade cost measure is fully-grounded in theory – based on a rearrangement of the Anderson and Van Wincoop (2004a) gravity model of trade.

This section presents total trade costs of country aggregates in selected Asia-Pacific subregions with (a) large developed economies (Germany, Japan and the United States), (b) large developing ESCAP economies (China, India, Indonesia and the Russian Federation) and (c) their top five trading partners. The international bilateral trade costs captured by the database are in broad aggregate form, including direct trade costs, indirect

⁴ Trade costs are available for total trade and for the two subsectors of trade in manufactured goods and trade in agriculture. Trade costs for energy are excluded.

⁵ A pre-defined list of potential factors is typically required by “bottom-up” models. “Top-down” models are less likely to suffer from omitted variable bias.

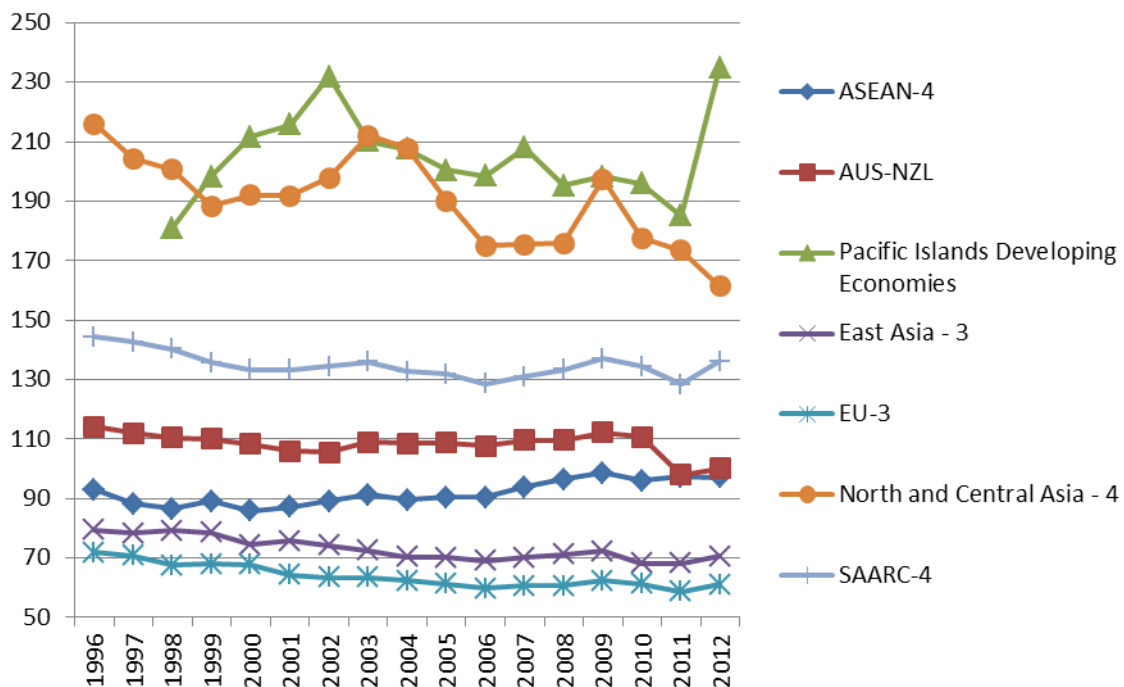
trade costs associated with regulatory import and export requirements, and costs resulting from currencies, language, culture, geography and distance. They include all known and unknown factors such as domestic and international shipping and logistics costs.

Figure 1 shows the trade costs of key Asia-Pacific subregional country aggregates with large developed country markets, and their evolution from 1996 to 2012. Trade costs are shown to vary substantially across country aggregates. East Asia-3 has the lowest trade costs in the Asia-Pacific region, almost on a par with the extraregional benchmark, the European Union (EU-3). The trade costs of North and Central Asia (NCA-4) are around three times higher than those of East Asia-3; however, the former has made much greater progress in reducing trade costs since 1996. The trade costs of South Asian economies (SAARC-4), the European Union (EU-3) and East Asia-3 also appear to have fallen since 1996. In contrast, the trade costs of ASEAN-4, although already low compared with other country aggregates, did not fall during the reporting period. Trade costs in developed Pacific island nations (AUS-NZL) appear to have been somewhat static during the reporting period, before sharply declining in 2011-2012. In contrast, trade costs in developing Pacific island nations (Dev. Pacific) are the highest across all the country aggregates considered, with no clear trend towards falling trade costs. This may be due, in part, to the geographical isolation of the islands, and to comparatively lower levels of trade compared with their larger developed Pacific island nation counterparts.

Figure 2 shows the trade costs of key Asia-Pacific subregional country aggregates with large developing country markets in the Asia-Pacific region, and their evolution from 1996 to 2012. In line with figure 1 – which looks at trade costs with large developed countries – the trade costs of North and Central Asia with large Asia-Pacific developing countries are almost three times higher than those of East Asia-3; however, they have declined steadily during the past 10 years. The trade costs of South Asian economies (SAARC-4), the European Union (EU-3) and East Asia-3 with large developing Asia-Pacific economies have also declined since 1996, in line with figure 1. The trade costs of ASEAN-4 with large developing Asia-Pacific economies have also declined since 1996, in contrast to figure 1 in which trade costs with large developed Asia-Pacific economies showed no clear declining trend. The trade costs of East Asia-3 with large developing Asia-Pacific economies (figure 2) are substantially lower than any other country aggregate, including the European Union (EU-3). This is in contrast to figure 1, in which East Asia-3 and the European Union (EU-3) trade costs were almost on a par with large developed economies. Trade costs of developed Pacific island countries (AUS-NZL) with large developing Asia-Pacific economies also show a clear downward trend in contrast to figure 1. The trade costs of developing Pacific island countries (Dev. Pacific) are highest across all country aggregates, and show no clear trend towards declining, in line with figure 1.

Figure 3 shows trade costs of each Asia-Pacific country grouping with its top five trading partners from 1996 to 2012. This aggregate trade cost measure is arguably the measure closest to “actual” trade costs, since it is based on trade flows with the most significant trade partners of each country. Unsurprisingly, trade costs with the top five trading partners are lower than with large developed countries, and lower than with large developing economies. These trade costs are, in fact, up to one-third lower than those with large developed or developing countries in ASEAN-4, developed Pacific islands (AUS-NZL), East Asia-3, the European Union (EU-3) and South Asian nations (SAARC-4). They are also more than one-half lower with the top five trading partners than with large developed or developing countries in: developing Pacific islands (Dev. Pacific), and North and Central Asia (NCA-4). Trade costs of East Asia-3 are significantly lower than those of all other Asia-Pacific subregional groups, but remain substantially higher than those of the European Union (EU-3). Although trade costs in figure 3 are lower than those in figures 1 and 2, they are still around three times higher in North and Central Asia (NCA-4) than in East Asia-3. Trade costs of ASEAN-4, although already low when compared with other country aggregates, show no clear pattern of declining during the reported period, in line with figure 1. Trade costs in developed Pacific island nations (AUS-NZL) appear to have been somewhat static during the reporting period, before sharply declining in 2011-2012, in line with figure 1. Trade costs in developing Pacific island nations (Dev. Pacific) are the highest across all country aggregates considered, with no clear trend towards falling trade costs, in line with both figure 1 and figure 2.

Figure 1. Trade costs of Asia-Pacific subregional country aggregates with large developed economies

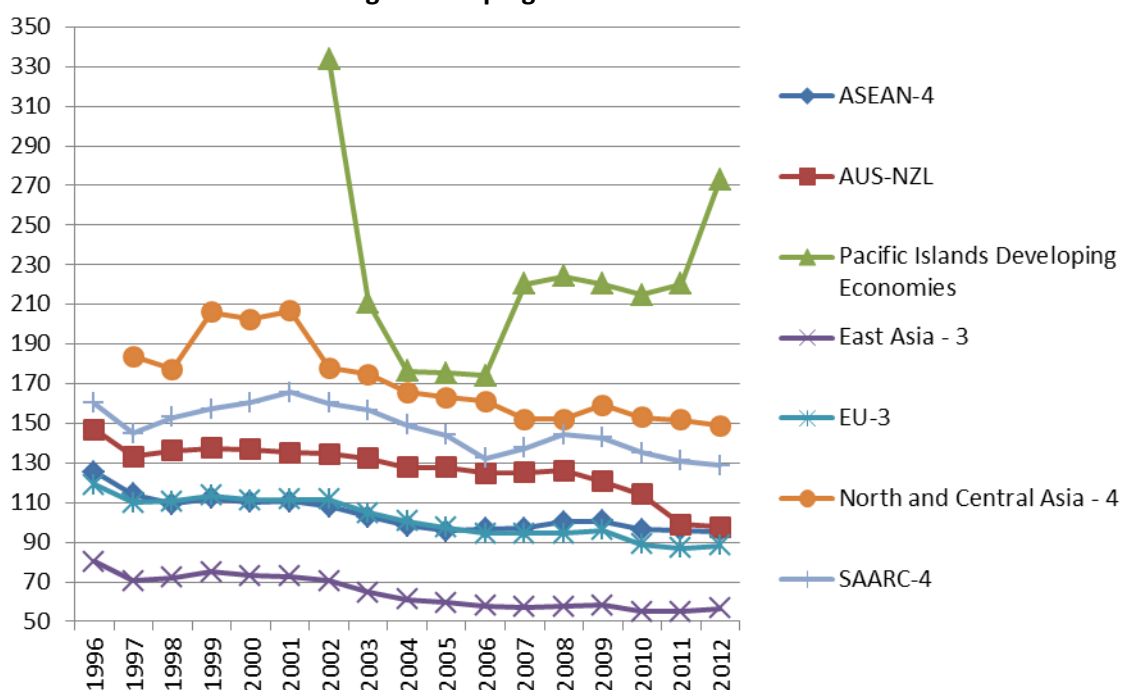


Source: ESCAP-World Bank Trade Costs Database (accessed August 2015).

Notes: Trade costs are tariff equivalents calculated as trade-weighted average trade costs of countries in each country aggregate group with the three largest developed economies (Germany, Japan and the United States).

Definitions: ASEAN-4 includes the four largest economies in the Association of Southeast Asian Nations – Indonesia, Malaysia, the Philippines and Thailand. AUS-NZL includes developing Pacific island nations, Australia and New Zealand. Dev. Pacific includes the largest developing Pacific island nations – Fiji and Papua New Guinea. East Asia-3 includes the three largest economies in East-Asia – China, Japan and the Republic of Korea. EU-3 includes the three largest economies in the European Union – Germany, France and the United Kingdom. NCA-4 includes the four largest economies in North and Central Asia – Georgia, Kazakhstan, Kyrgyzstan and the Russian Federation. SAARC-4 includes the four largest economies in the South Asian Association for Regional Cooperation – Bangladesh, India, Pakistan and Sri Lanka.

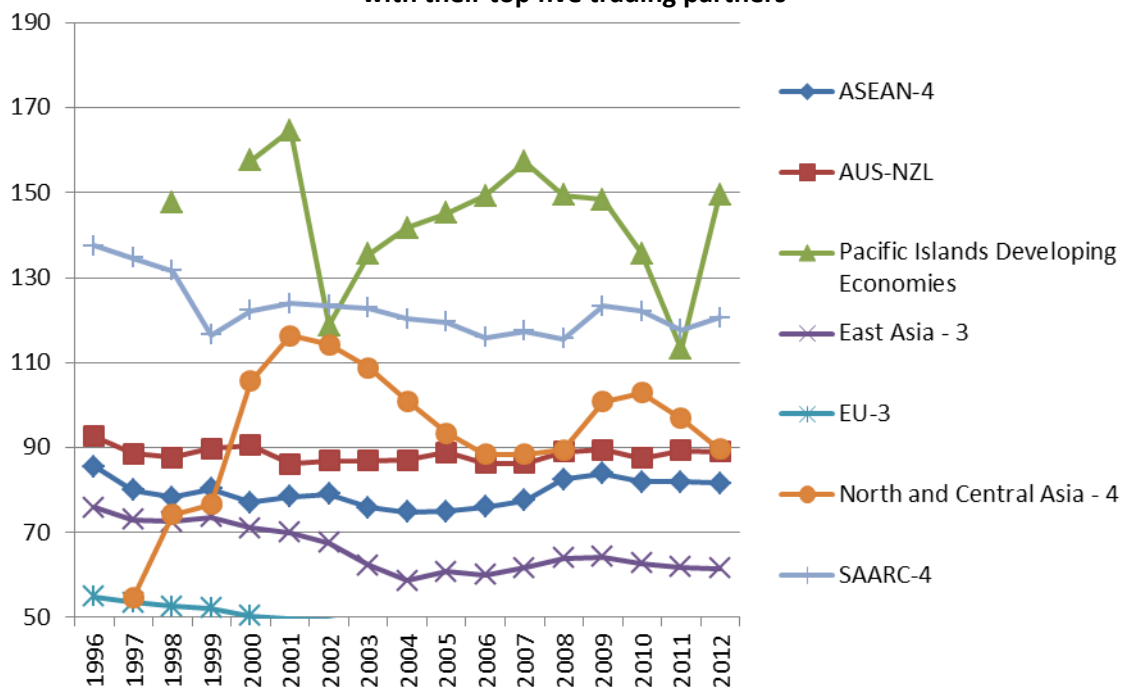
Figure 2. Trade costs of Asia-Pacific subregional country aggregates with large developing Asia-Pacific economies



Source: ESCAP-World Bank Trade Costs Database (accessed August 2015).

Notes: Trade costs are tariff equivalents calculated as trade-weighted average trade costs of countries in each country aggregate group with the four largest developing Asia-Pacific economies (China, India, Indonesia and the Russian Federation).

Figure 3. Trade costs of Asia-Pacific subregional country aggregates with their top five trading partners



Source: ESCAP-World Bank Trade Costs Database (accessed August 2015).

Notes: Trade costs are tariff equivalents calculated as trade-weighted average trade costs of countries in each country aggregate group with its five largest trading partners.

Overall, the trade costs of Asia-Pacific developing economies are generally slightly higher when trading with large (essentially outside-the-region) developed countries than when trading with large Asia-Pacific developing countries. However, this may be explained essentially by “natural” trade costs associated with trading with outside-the-region developed economies rather than by policy-driven regional integration processes, however. Indeed, besides the wide disparities in trade costs observed across the different subregions, one of the most striking results is the limited evidence of significant trade cost reductions during the past 10 years in ASEAN-4 despite the large number of intergovernmental trade agreements and initiatives by economies in this group. In contrast, East Asia-3, already characterized by its lowest trade costs in the region, appears to have continued making progress overtime, maintaining or deepening the trade costs gaps with other Asia-Pacific subregions.

2. Intra-regional and extra-regional trade costs

Table 1 shows intra-regional and extra-regional trade costs between country aggregates, averaged during 2008-2013. It also presents the changes in these trade costs from 2002-2007 to 2008-2013. East Asia-3 has the lowest intra-regional trade costs in the Asia-Pacific region (51%), followed closely by developed Pacific islands (AUS-NZL) (54%). However, they remained higher than intra-regional trade costs in the European Union (EU-3) (43%). In addition, intra-regional trade costs in East Asia-3 fell by 5% during 2008-2013, compared with 2002-2007, and decreased with all extra-regional groups. The highest intra-regional trade costs were in the developing Pacific islands (Dev. Pacific) (133%), followed by North and Central Asia (NCA-4) (121%). These intra-regional trade costs were more than twice those of East Asia-3.

Table 1. Intra-regional and extra-regional trade costs in the Asia-Pacific region (percentage)

Region	ASEAN-4	East Asia-3	North and Central Asia - 4	Pacific Islands Developing Economies	SAARC-4	AUS-NZL	EU-3
ASEAN-4	76% (9%)						
East Asia-3	75% (5%)	51% (-5%)					
North and Central Asia - 4	351% (9%)	177% (-7%)	121% (9%)				
Pacific Islands Developing Economies	175% (-11%)	174% (-9%)	368% (34%)	133% (-10%)			
SAARC-4	128% (2%)	125% (-0%)	282% (13%)	317% (2%)	114% (10%)		
AUS-NZL	101% (4%)	89% (-3%)	338% (-5%)	73% (-22%)	142% (-1%)	54% (1%)	
EU-3	108% (2%)	85% (-4%)	152% (-8%)	211% (-6%)	114% (3%)	109% (0%)	43% (-4%)

Source: ESCAP-World Bank Trade Costs Database (accessed August 2015).

Notes: Trade costs are tariff equivalents calculated as average trade costs during 2008-2013. Intra-regional trade costs are highlighted. The change from 2002-2007 to 2008-2013 is shown in parentheses.

In line with expectations, the highest extraregional trade costs are typically observed in developing Pacific islands (Dev. Pacific) as well as in North and Central Asia (NCA-4). This is mainly due to the fact that many of these nations face the geographical obstacles of being either landlocked or sealoaked, which raises the cost of trade. In addition, there may be greater incentives to trade with countries that have higher connectivity and closer proximity, due to the lower volume of trade.

Intraregional trade costs for ASEAN-4 are around 76%, which is only marginally higher than extraregional trade costs between ASEAN-4 and East Asia-3 (75%). SAARC-4 has intraregional trade costs of around 114%, the same as extraregional trade costs with the European Union (EU-3). This suggests a need for greater trade facilitation efforts and improved connectivity among SAARC-4 nations. Overall, table 1 reveals that it is often cheaper for developing Asia-Pacific economies to trade with partners outside the Asia-Pacific region than those within the region.

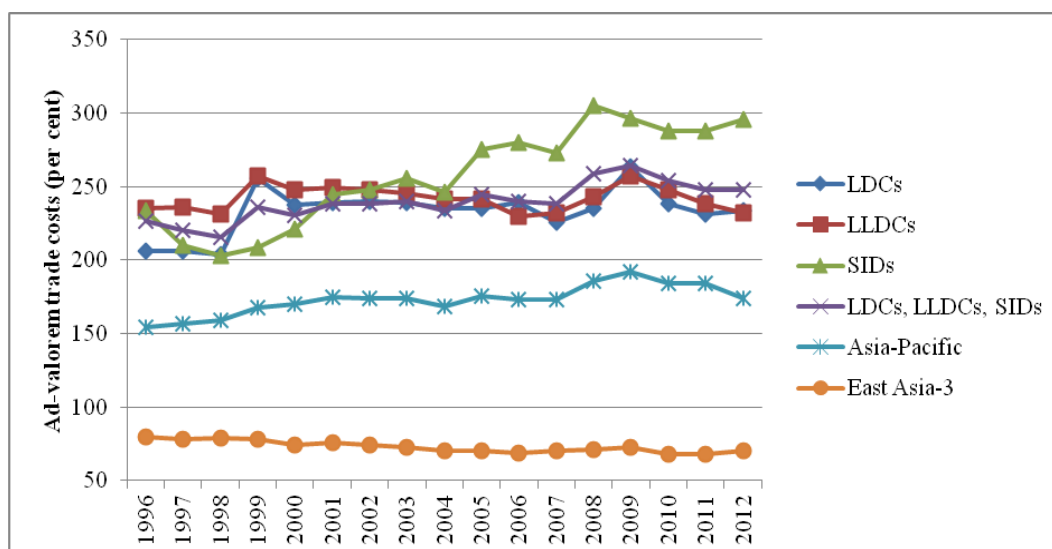
3. Trade costs across LDCs, LLDCs and SIDS

Figure 4 shows the trade costs of Asia-Pacific LDCs, LLDCs and SIDS with large developed country markets, and their evolution from 1996 to 2012. The Asia-Pacific region and East Asia (East Asia-3) are also included as benchmarks for comparison purposes. In line with expectations, trade costs with large developed country markets are highest across SIDS, where trade costs are more than four times those of East Asia-3. Although trade costs across SIDS appear to have declined in recent years, they continue to remain high compared with other groups. SIDS face high trade costs because they face significant geographical obstacles, as they are sea-locked and are distant from trading partners. The trade costs of LDCs are almost on a par with LLDCs, which is not surprising given that four countries appear in both groups; however, they are lower than those of SIDS. Nevertheless, the trade costs of LDCs and LLDCs are roughly 50% higher than the Asia-Pacific regional average, and more than three times those of East Asia-3.

Figure 5 shows the trade costs of LDCs, LLDCs and SIDS with large developing country markets in the Asia-Pacific region, and their evolution from 1996 to 2012. The qualitative conclusions drawn from figure 4 remain broadly similar to those for figure 5. The highest trade costs are observed across SIDS, they are around four times those of East Asia-3, and the trade costs of LDCs are almost on a par with LLDCs; however, they are higher than those of Asia-Pacific and more than three times those of East Asia-3.

Figure 6 shows the trade costs of LDCs, LLDCs and SIDS with their respective top five trading partners from 1996 to 2012. The trade costs of all three groups are lower than those observed with developed and developing country markets in figure 4 and figure 5, respectively. The trade costs appear to have peaked during the 2007-2009 financial crisis; however, they show a clear downward post-crisis trend from 2010 onwards. While the trade costs of SIDS are around three times those of East Asia-3, the trade costs of LDCs and LLDCs are just twice those observed in East Asia-3.

Figure 4. Trade costs of LDCs, LLDCs and SIDs with large developed economies

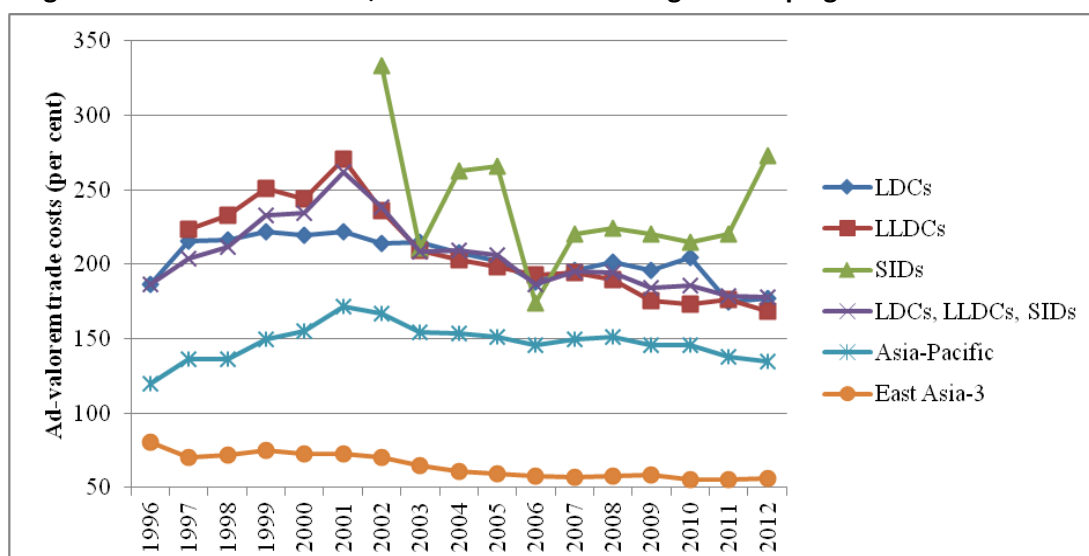


Source: ESCAP-World Bank Trade Costs Database (accessed August 2015).

Notes: Trade costs are tariff equivalents calculated as trade-weighted average trade costs of countries in each country aggregate group with the three largest developed economies (Germany, Japan and the United States).

Definitions: LDCs include Afghanistan, Bangladesh, Bhutan, Cambodia, Kiribati, the Lao People's Democratic Republic, Myanmar, Nepal, Tuvalu and Vanuatu. LLDCs include Afghanistan, Armenia, Azerbaijan, Bhutan, Kazakhstan, Kyrgyzstan, Lao PDR, Mongolia, Nepal, Tajikistan, Turkmenistan, and Uzbekistan. SIDs include Cook Islands, Fiji, Kiribati, Maldives, Marshall Islands, Micronesia, Nauru, Palau, Papua New Guinea, Samoa, Tonga, Tuvalu and Vanuatu. Asia-Pacific includes all ESCAP member States for which data are available. East Asia-3 includes the three largest economies in East-Asia – China, Japan and the Republic of Korea.

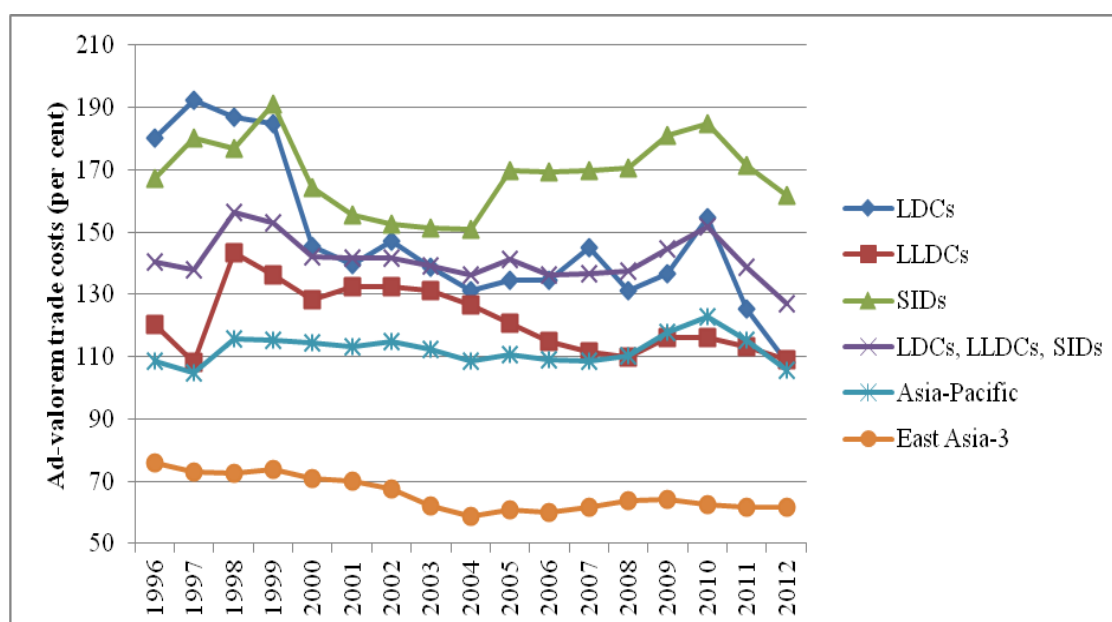
Figure 5. Trade costs of LDCs, LLDCs and SIDs with large developing Asia-Pacific economies



Source: ESCAP-World Bank Trade Costs Database (accessed August 2015).

Notes: Trade costs are tariff equivalents calculated as trade-weighted average trade costs of countries in each country aggregate group with the four largest developing Asia-Pacific economies – China, India, Indonesia and the Russian Federation.

Figure 6. Trade costs of LDCs, LLDCs and SIDs with their top five trading partners



Source: ESCAP-World Bank Trade Costs Database (accessed August 2015).

Notes: Trade costs are tariff equivalents calculated as trade-weighted average trade costs of countries in each country aggregate group with their five largest trading partners.

The comprehensive trade costs discussed in this section are highly aggregated measures of trade facilitation performance and can vary substantially, depending on trading partners or the types of goods traded. Although trade costs with developed and developing country markets have fallen for many economies, evidence suggests that they continue to remain high, particularly across LDCs, LLDCs and SIDs.

B. What policies and factors matter most in reducing trade costs?

1. Sources of trade costs

The sources of trade costs are multifarious and highly complex. This presents a challenge for policymakers with regard to which sources of trade costs to address and in which way to prioritize the implementation of different trade facilitation measures. A recent study by Duval and Utoktham (2015) set out to measure the contribution of different factors to trade costs across countries.⁶ As explained in box 1, they broke down trade costs into three categories: (a) tariff costs; (b) natural trade costs; and (c) non-tariff policy-related trade costs. Using econometric analysis and bilateral data from the ESCAP-World Bank Trade Cost database for Asia-Pacific countries, they then estimated the relative importance of each category and that of the policy factors that might help address them.⁷ Figure 7 illustrates the results of their study.

⁶ This section is an update of the analysis presented in Duval and Utoktham (2011), using the most recent data available, including updated trade cost data as of August 2015. For a similar study at the global level, see Arvis and others, 2013.

⁷ These results do not apply directly to LLDCs due to availability of data.

Box 1. Disaggregating trade costs: A simple categorization

The sources of trade costs, which are complex, diverse and in some cases unobservable, can be broadly defined in three categories: (a) tariff trade costs; (b) natural trade costs; and (c) policy-related non-tariff trade costs. The first category of trade costs comprises tariffs imposed on imported goods and services. The second category of natural trade costs, is inherent to the location, culture and/or history of the trading partners. They are typically observed as exogenous (i.e., taken as given and unchangeable) because they are difficult to address through policy in the short to medium term. Natural trade costs include geographical factors such as: (a) sharing a common land border (i.e., contiguity); (b) access to the sea (or landlocked); and (c) geographical distance from trading partners (i.e., remoteness). Natural trade costs also include factors that measure the cultural and historical distances between countries, such as: (a) use of a common language (both official and unofficial); (b) having formerly been the same country (i.e., India and Pakistan); and (c) having formerly been in a colonial relationship (i.e., a former colony, a former coloniser, and/or formerly having been subject to a common coloniser).

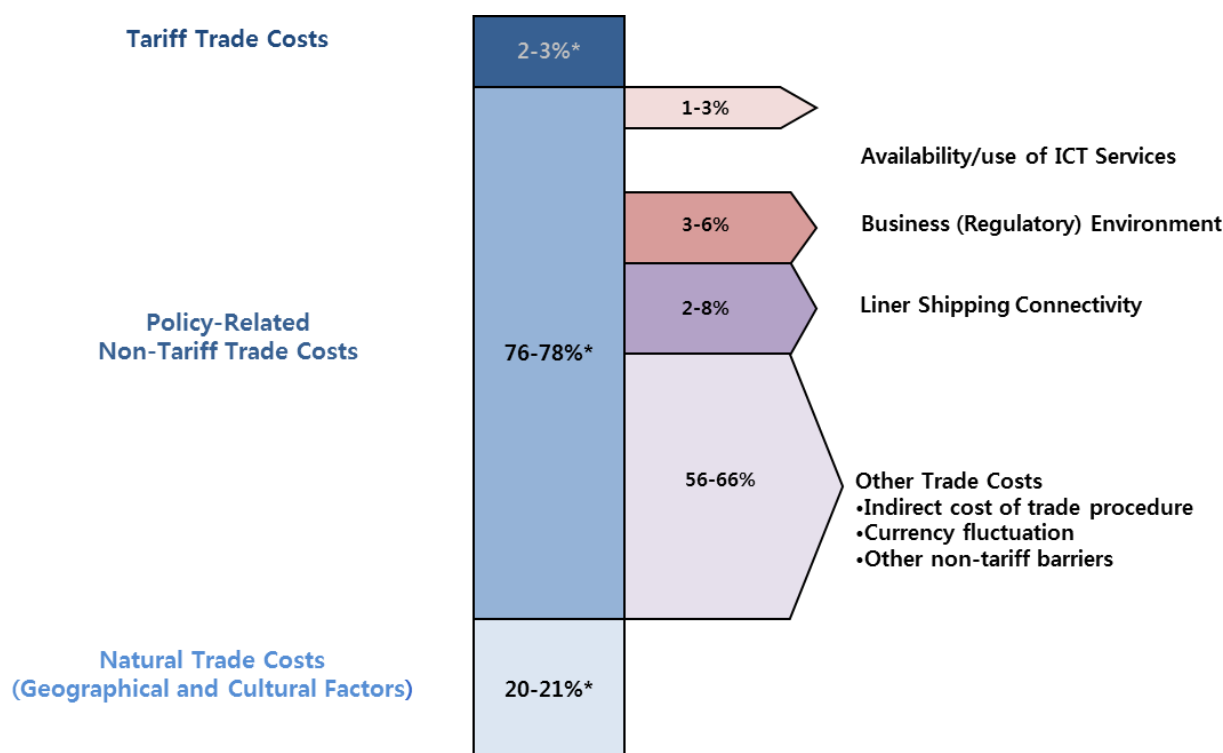
The third category, policy-related non-tariff trade costs, comprises those that can potentially be reduced through policy-related measures because they have endogenous causes. They include, but are not limited to direct behind-the-border and at-the-border trade costs, the availability and use of information communication technology (ICT) services, the business regulatory environment, international supply chain connectivity, exchange rates movements, and other NTMs such as sanitary and phytosanitary (SPS) measures, and technical barriers to trade.

2. Types of trade costs

Estimates revealed that tariffs accounted for just 2-3% of bilateral comprehensive trade costs across countries. This is interesting because much of the focus of trade facilitation during the past decade has been on reducing tariffs. Natural trade costs were shown to vary substantially, depending on the partner countries considered; however, on average, they accounted for 20%-21% of bilateral comprehensive trade costs. Finally, policy-related non-tariff trade costs were shown to account for the bulk of bilateral comprehensive trade costs across countries (around 76%-77%).

Policy-related non-tariff trade costs have the potential for reduction through trade facilitation measures. Within this category, liner shipping connectivity was shown to be the largest source of trade costs, explaining around 2%-8% of trade costs across countries. This suggests that policies aimed at developing access to effective maritime services and related port infrastructure should be given higher priority for implementation if countries aim to reduce trade costs. However, enhancing liner shipping connectivity is likely to be challenging in many LDCs, given the costs associated with developing required hard infrastructure.

Figure 7. Factors influencing trade costs of Asia-Pacific economies



Source: Duval and Utoktham, 2015

Note: This figure is based on a casual observation of the data only. Natural trade costs for landlocked countries may be outside of the range shown in the figure.

The behind-the-border business regulatory environment was shown to be the second most important source of policy-related non-tariff trade costs, explaining around 3%-6% of trade costs across countries. Around half of this trade-cost effect is accounted for by the credit indicator alone. This provides support for prioritization of behind-the-border policies and measures aimed at increasing the availability of trade financing. It could also be achieved by increasing the transparency and availability of information on the creditworthiness of exporters and trading partners.

Access and usage of ICT services is found to be the third-most important source of policy-related non-tariff trade costs, explaining around 2%-6% of trade costs across countries. This suggests that policies and measures aimed at enhancing ICT infrastructure and services, and increasing their usage through education, should be given special attention in those countries aiming to streamline trade costs and facilitate trade. Policies aimed at liberalizing logistics and information technology services could also be considered, as could the fostering of healthy competition among service providers.⁸

Interestingly, the direct cost of moving goods from factory to the ship deck and vice versa – including other factors such as inland transportation, customs clearance and preparation of documents – was found to account for just 1%-3% of trade costs across countries. This suggests that indirect and hidden costs associated with trade (e.g., reluctance to engage in new, regulated or perishable products because of uncertainties regarding time and costs of trade, or the lack of transparent procedures) are more important than the actual

⁸The updated estimates of Duval and Utoktham (2015) are broadly consistent with results from their earlier 2011 study as well as those of Wilson, Mann and Otsuki (2003) which found that IT services were the most important policy-related non-tariff trade cost, followed by port efficiency.

direct costs of completing trading procedures. Disentangling these indirect and hidden costs remains a significant challenge. Nevertheless, the fact that more than 50% of changes in non-tariff policy-related trade costs across economies are not captured by relatively wide-ranging trade cost factors considered in the study suggests that they play a vital role in trade facilitation.

In addition to these measures, the establishment of public-private partnerships can help accelerate the development of national information technology as well as transport and logistics infrastructure. For LLDCs, close cooperation with transit neighbours is essential to improving access to maritime services and in bringing trade costs down to more competitive levels. Given scarce resources, it may also be more cost-effective for countries to improve the business environment for trade by implementing measures that aim to speed up the movement of goods between factory and port (or vice versa). Measures aimed at facilitating access to trade finance and financial services could also be prioritised.

The performance of different trade facilitation measures can be affected by a wide range of policies and government actions. Although non-tariff trade costs account for a major component of trade costs across countries, much of the effort in reducing trade costs during the past decade has focused on reducing tariffs. This suggests that further reductions in trade costs need to come from addressing non-tariff measures, particularly improving port efficiency (i.e., liner shipping connectivity), increasing access and use of ICT services and improving the business regulatory environment – particularly access to trade financing. Nevertheless, given the highly complex, interconnected nature of trade costs, it is important for policymakers to lower trade costs with trade facilitation measures through a comprehensive approach rather than focusing on isolated factors.

C. Key findings from micro-level trade process analyses

1. Business process analysis for trade facilitation

The research literature on trade facilitation has typically focused on identifying measures that can help reduce trade costs across countries and/or sub-sectors over time. However, there have been comparatively fewer studies analysing bottlenecks and inefficiencies in the import and export processes at the firm level. This is mainly due to the time, cost and complexity involved in mapping out the entire trading processes for individual, firms, products, and routes, both across countries and over time. The process of moving goods across borders is highly complex, and as agents must comply with a number of commercial, transport and regulatory requirements, and follow complex administrative procedures which may require documentation. Many of those involved in the trading process are aware of the need to streamline and simplify procedures; however, a lack of data increases the difficulty in identifying bottlenecks and inefficiencies in the system.

To address this issue, since 2009 international organizations (i.e., ESCAP, ECE and ADB), in collaboration with other relevant organizations and agencies in ESCAP member States, have successfully mapped out more than 50 product-specific trade processes across more than 15 developing Asian economies. These studies use business process analysis (BPA) to detail existing import and export processes along the entire international supply chain.⁹ As each BPA analysis provides a “snapshot” of the trade processes and procedures for a particular

⁹ The UNNExT BPA methodology has been shown to be an effective tool for designing and motivating trade facilitation reforms in the Asia and the Pacific.

route, product, and/or country, ESCAP set out to consolidate all this information into a comprehensive Trade Process Analysis Database (TPAD, 2015), enabling researchers to compare the costs, time, number of documents and number of agents associated with different trade procedures. This section briefly outlines the results of these studies and policy recommendations, using a meta-analysis of BPA studies included in TPAD (UNNEXt, 2014; ESCAP, 2015a).

Evidence from the Trade Process Analysis Database (TPAD, 2015), Table 2 and 3 detail the complexity, time and costs associated with 17 export and import processes across seven developing Asian economies (Bangladesh, Cambodia, China, Lao People’s Democratic Republic, Myanmar, Nepal and Thailand). The typical procedures for export and import processes included customs clearance, arrangement of transport, conclusion of contracts and the preparation of documents. Between 8 and 15 procedures were required to complete export processes, while between 5 and 12 procedures were required to complete import processes. On average, export processes required around 25% more procedures than import processes.¹⁰ This finding is, in part, due to the fact that many of the BPA analyses focused on agricultural and textile products – both of which are essential for inclusive and sustainable development in the region.

Table 2. Complexity, time and cost of selected export processes in developing Asia

Origin	Product exported	Destination	No. of business procedures	Number of documents needed (incl. copies)	Time (days)	Cost (US\$)
Bangladesh	Woven garments	India	12	68	40	1 015
Bangladesh	Shrimp	Japan	12	75	37	500
Bangladesh	Jute Hessian Bag	India	12	33	30	316
Cambodia	Cassava	China	13	60	5	741
Cambodia	Maize	China	13	60	5	741
Cambodia	Rice	France/Italy/Germany	12	51	26	1 029
Cambodia	Cashew nut	India	11	36	23	1 129
Cambodia	Silk	Germany	10	54	21	270
China	Garments	Japan	11	26	9	440
China	Electronics	Thailand	13	31	22	298
Lao PDR	Maize	Thailand	8	10	17	702
Myanmar	Rice	Ivory Coast/Burkina Faso	10	42	12	124
Myanmar	Mango	China	8	23	11	1 492
Nepal	Cardamom	India	9	38	13	2 052
Nepal	Vegetable ghee	India	14	48	42	1 076
Nepal	Vegetable ghee	China	8	48	11	833
Thailand	Jasmine rice	United States	15	72	15	129
Total			191	775	337	12 887
Average			11	46	20	758

Source: Trade Process Analysis Database, 2015.

¹⁰ This may be due in part to the fact that many of the BPAs included in TPAD are related to agricultural and food exports. Many documents are already prepared by traders as part of the export process, so all relevant information is available for import clearance.

Table 3. Complexity, time and cost of selected import processes in developing Asia

Origin	Product exported	Destination	No. of business procedures	Number of documents needed (incl. copies)	Time (days)	Cost (US\$)
Bangladesh	Wheat	India	12	49	27	183
Bangladesh	Cotton fabric	India	6	28	8	415
Bangladesh	Raw sugar	Thailand	6	19	10	525
Cambodia	Pharmaceuticals	Indonesia	7	25	22	200
China	Textiles	Japan	8	37	9	440
China	Auto-parts	Japan	8	37	12	440
Lao PDR	Animal feed	Thailand	10	33	15	500
Myanmar	Palm oil	Malaysia	11	61	11	185
Nepal	Rice	India	11	49	18	960
Nepal	Textiles	India	5	25	5	320
Total			84	363	136	4 168
Average			8.4	36.3	13.64	416.8

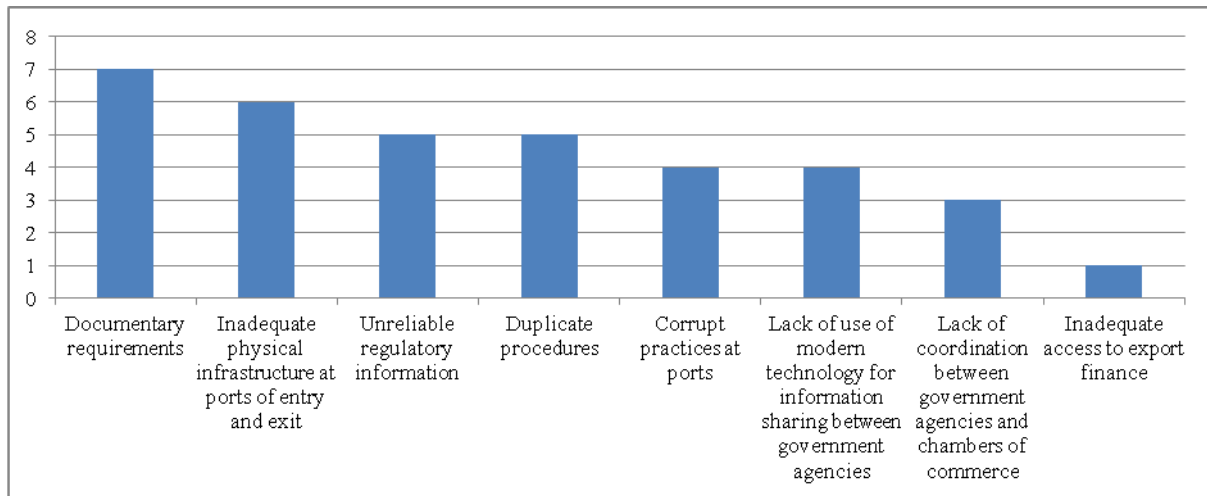
Source: Trade Process Analysis Database, 2015.

The number of documents required for exporting was shown to range from 10 (for maize from Lao People's Democratic Republic to Thailand) to 75 (for shrimp from Bangladesh to Japan). The number of documents required for importing ranged from 19 (for raw sugar from Thailand to Bangladesh) to 61 (for palm oil from Malaysia to Myanmar). Although there was substantial cross-country product-route heterogeneity in document requirements, overall they were found to be 20% higher for export processes than for import processes. In the case of shrimp, SPS certificates were acquired within 17.5 days in Bangladesh and within 14 days in Thailand – accounting for almost half the time for the entire export process. In contrast, just one day was required to obtain an SPS certificate for products in Nepal, Cambodia, Myanmar and Sri Lanka.

2. Meta-analysis and implications for reducing trade costs

A meta-analysis of BPA studies covering 15 LDCs, LLDCs and developing Asia-Pacific economies revealed that the top barriers to trade facilitation included cumbersome documentary requirements, inadequate infrastructure at ports of entry and exit, and unreliable regulatory information (figure 8). Processes and procedures with higher numbers of documentary requirements were found to be less predictable as documents, not only due to preparation time, but also because they may have been rejected by controlling agencies for various reasons (e.g., need for originals rather than copies, errors and omissions, incompleteness etc.). Inadequate infrastructure at ports of entry and exit were often found to compound the effects of complex documentary requirements and inspections. Unreliable information concerning regulations, laws and administrative processes were also found to be a major barrier to trade, as traders often struggled to identify which procedures to follow and which rules were applicable.

Figure 8. Common barriers for trade facilitation



Source: Trade Process Analysis Database, 2015.

The following 10 recommendations for reducing trade costs emerged from the meta-analysis:

(a) Full and inclusive representation of the private sector

Research into the TPAD database revealed that the private sector is directly involved in all procedures and steps in the trade process. Therefore, private sector support as well as government and trade-related agency support is crucial to reducing the time and cost of trade. Governments have a role to play in streamlining procedures over which it has direct control (i.e., customs and other regulatory procedures); however, Chambers of Commerce and/or Industry Associations often also play a role in issuing trade-related documents (i.e., certificates of origin and/or quality certificates). Since the procedures put in place by these entities may not always facilitate trade, private sector consultation, collaboration and coordination initiatives are necessary to streamline trade procedures. Similarly, private sector intermediaries (i.e., transport and logistics service providers and customs brokers) do not always have an incentive to support trade facilitation measures, as the services they render may become rendered redundant if processes are simplified. In such cases, Governments can address such issues by ensuring more inclusive engagement of the private sector in trade facilitation bodies.

(b) Consistent implementation and performance monitoring

The meta-analysis of the BPA studies demonstrated that even relatively simple trade facilitation measures – such as the provision of customs clearance services during holidays and weekends as well as the harmonization of working hours at border checkpoints on both sides of a land border – are not always implemented. There is also substantial variation in the implementation of trade facilitation measures across different border crossings and trade routes. Further, regulatory authorities often have a limited view of the entire trade process, often only aware of their own internal efficiency or inefficiency. Traders also have limited awareness and information about procedural bottlenecks. Intermediaries often hold much of the information on the time and cost associated with specific trade procedures. An independent assessment of trade-related

agencies could help identify inefficiencies and priorities for reform. Establishment of national trade facilitation performance monitoring mechanisms may be considered.¹¹

(c) Prioritization of paperless trade and single windows

Data revealed that preparation of documents and information (even before goods move from the factory or arrive at the port) accounts for the largest share of time required to complete a trade process. The development of Single Window facilities for submission and processing of information could reduce trade costs. This would benefit regulatory and control agencies as well as public and private agents in the trade process. There are currently “extended” national Single Windows operating in the Republic of Korea and Singapore. The use of ICT systems would also reduce excessive reliance on paper documents and increase the transparency and predictability of the trade process. Radio frequency identification (RFID) tracking of container systems could also provide real-time information about the time taken to move goods and exchange electronic documents for all transactions.

(d) Risk management to reduce physical inspections

Inspections and testing procedures are often required at various stages of the trade process, typically at the border or port, but often as part of document preparation for exports. Research shows that this often increases the average transaction time required to complete export and import processes, and reduces predictability of the process. These are key factors in enabling firm participation in international production networks. The frequency of inspections and testing could be reduced through appropriate risk management techniques that are typically used by customs agencies but could be extended to other regulatory agencies. Inter-agency risk management systems with joint (multi-agency) inspections could also reduce multiple inspections and testing. By setting up certification programmes, the quality and characteristics of goods could also be assured at the factory gate, rather than for each shipment of goods.

(e) Hard infrastructure investment

Almost all the TPAD studies observed a serious lack of physical trade-related and border infrastructure across developing countries – especially least developed countries. The upgrading of physical infrastructure (i.e., building roads, bridges, and/or testing facilities) was found to be the second most frequently cited recommendation of the studies, after paperless trade and Single Windows. However, in order to maximize the potential of these facilities it is important to build human and institutional capacity.

(f) Competition between service providers

Inland carriage, handling and terminal handling were found to be the most time-consuming components of the trade process. The BPA studies in TPAD demonstrated that service providers (i.e., buy-ship-pay providers) played an important role in international supply chains. Governments could encourage healthy competition across transport, logistics and other trade-related service providers by reviewing policies that may unduly protect specific service providers.

¹¹ ADB and ESCAP have recommended and developed the concept of integrated and sustainable trade and transport facilitation monitoring mechanisms (TTFMM).

(g) Payment system review

Analysis of the buy-ship-pay process revealed that in some cases, the payment process accounted for a large proportion of the time required for export or import. This was in part due to the payment method (i.e., open account method) or negotiated payment terms. Data revealed delays in payment receipt of up to two weeks after submission of necessary documentation to the bank as specified in the letter of credit (L/C). In some cases, the cost of two L/Cs was the same as the direct cost of exporting a 20-foot container (excluding international shipping).

(h) Industry-specific programmes

The product-specific studies show substantial variation in the complexity and length of trade processes, depending on the types of goods traded. In some cases, mandatory sampling and testing for agricultural goods and food products accounted for almost half of the export time – often due to limited testing facilities in the exporting country.¹² Such industry-specific bottlenecks could be addressed through implementation of sector-specific trade facilitation measures.

(i) Procedures in bilateral and regional free trade agreements

Several BPA studies found that additional documentary requirements (i.e., certificates of origin) for preferential treatment outlined in trade agreements lead to significant delays. Future agreements should provide clear guidelines on obtaining and exchanging documents and simplify related procedures.

(j) International harmonization of documentary requirements

The analyses show that different documentation is often required for exporting a specific product to different destinations, which leads to confusion and delays. The process could be simplified through alignment and harmonization of national procedures and documents to international standards and Conventions. It is also important to harmonize and align standards in the private sector – through international associations – as individual buyers often require different types and quality of certificates in varying formats. As highlighted in several ESCAP Resolutions since 2012, harmonization of legal and technical frameworks underpinning paperless trade systems are necessary to ensure electronic documents can be used and recognized by stakeholders across countries in international supply chains.

Analyses of micro-level trade processes in Asia and the Pacific should be interpreted carefully because BPA studies included in TPAD were conducted at different times and for different products, routes and modes of transport. Nevertheless, they reveal important bottlenecks and barriers to trade facilitation. These analyses should be seen as complementary to studies that analyse trade facilitation using more aggregate trade cost measures.

¹² This finding is consistent with macro-level results using ESCAP-World Bank trade cost data, which show that countries with low manufacturing costs do not necessarily have low agricultural trade costs (and vice versa).

D. Key findings and recommendations from recent ESCAP studies

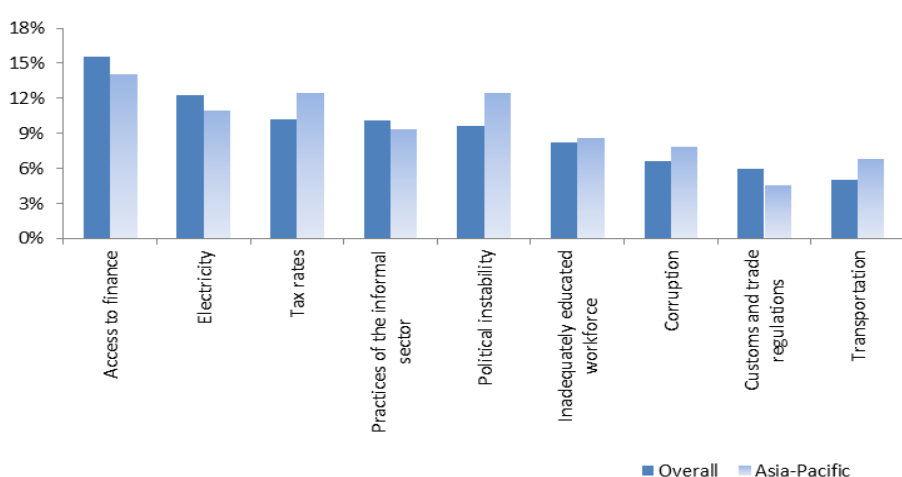
This section outlines some of the key findings and recommendations from five recent ESCAP studies on trade facilitation and reducing trade costs in the Asia-Pacific region featured in Part II of this monograph. These studies find that trade costs can be reduced through: (a) improved maritime and international logistics services – particularly in the agricultural sector (Part II, chapter III); (b) strengthened provisions in existing and new transit agreements – especially for LLDCs (Part II, chapter II); and (c) through implementation of paperless trade measures (Part II, chapter V). They also find that there are benefits to implementing trade facilitation measures and reducing trade costs such as: encouraging participation in export and international production networks, particularly for SMEs and for attracting foreign direct investment (Part II, chapters I and IV, respectively).

1. Financing, quality certification and reduced clearance times the key to SME participation in trade

The first ESCAP study presented in Part II found that a reduction in customs and clearance times increased the likelihood of participation in export and international production networks (IPNs) relatively more often for SMEs than that for larger enterprises. It also highlighted the importance of modern ICT and international quality certification as critical to SME participation in IPNs – with SMEs that rely on both at least 13% more likely to be involved in such networks.

The study found that access to finance was a key obstacle to business operations in the Asia-Pacific region (figure 9). In fact, some 60% of Asia-Pacific SMEs were shown to rely exclusively on internal financing compared to a global average of 40%. Access to a variety of external trade finance sources – especially bank financing and supplier credit – was shown to increase the likelihood of SME participation in direct export and IPNs. Overall, this study highlighted the importance of supply chain financing in facilitating direct export participation of SMEs, in addition to reducing trade costs.

Figure 9. Main obstacles to business operations by exporting SMEs

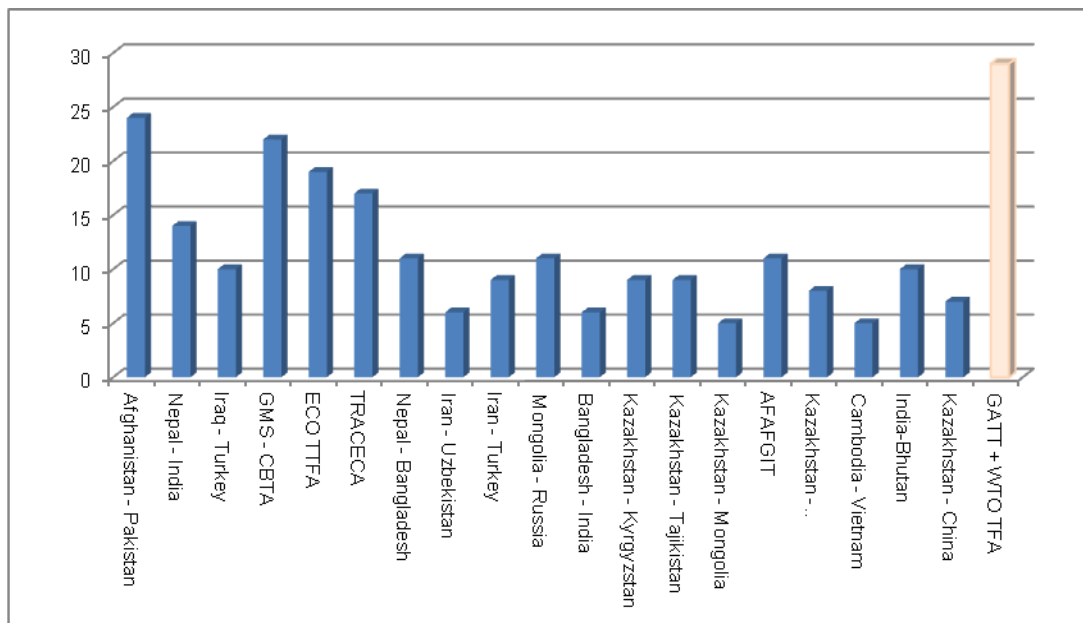


Source: Duval and Utoktham, 2014.

2. WTO Trade Facilitation Agreement important to facilitating transit and reducing trade costs of LLDCs in Asia and the Pacific

LLDCs typically face higher costs of trade because they lack direct access to the sea, thereby reducing their competitiveness in terms of trade and investment. The ESCAP study presented in Part II, chapter II, found that the WTO Trade Facilitation Agreement (WTO TFA) has the potential to reduce trade costs and boost trade for LLDCs through the article on “Freedom of Transit” which protected the “legitimate” interests of transit countries’ access to the sea. It was argued that this would enable LLDCs to integrate into GVCs and to transition from landlocked to land-linked. The WTO TFA was found to contain ambitious measures not, or rarely, found in bilateral, regional transport or transit agreements (figure 10). These included: (a) advance clearance of goods in transit (found in one existing treaty only); (b) renewal of guarantees (found in one existing treaty only); and (c) designation of national coordinators (found in three existing treaties). However, some measures widely found in related treaties were absent from WTO rules and the WTO TFA. This included: (a) mutual recognition of customs seals (found in five treaties); (b) simplified immigration formalities for drivers (five treaties); and (c) freedom of transit for passengers (10 agreements).

Figure 10. Trade facilitation potential of selected transport and transit agreements



Source: Cousin and Duval, 2014.

Notes: The trade facilitation potential scores shown are based on the presence (or absence) of 37 facilitation provisions in each of the agreements considered.

Following an analysis of transit provisions in preferential trade agreements, international transport agreements and transit agreements in the Asia-Pacific region, the study concluded that the existing legal environment for transit was highly complex. It recommended close and earlier inter-agency coordination, to help foster more transparency, reduce conflicting rules on transit and increase the likelihood of measures being implemented. It also suggested there was a need for strengthening multilateral rules and building on “good practices” found in existing bilateral, regional and multilateral instruments.¹³ In fact, the Afghanistan-Pakistan

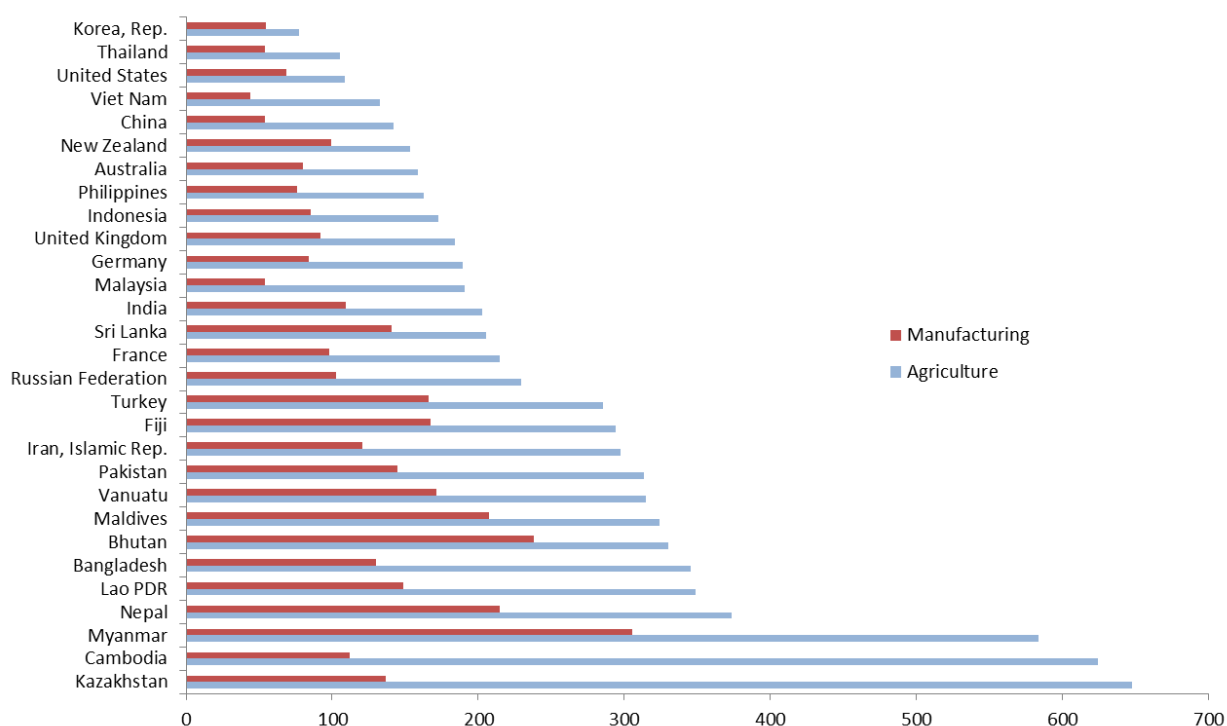
¹³ Transit facilitation has been widely overlooked in PTAs, with many countries addressing such matters using a variety of other bilateral and regional instruments such as international transport or transit specific agreements.

transit agreement was shown to have the highest legal potential among all other agreements reviewed (figure 10), although informal discussions with officials from both countries indicated significant challenges in implementation. The Convention on International Transport of Goods under Cover of TIR Carnets (TIR Convention) – not mentioned in the WTO TFA – also provided more concrete and detailed mechanisms for transit facilitation. Overall, the study suggested that incorporating these agreements into implementation plans would be an effective way to further the objectives of the WTO TFA and reduce trade costs in the Asia-Pacific region.

3. Logistics services and non-tariff measures the key to reducing trade costs in agriculture in Asia and the Pacific

Agriculture remains the backbone of many Asia-Pacific developing economies and employs around half of the Asian working population. It is therefore important to reduce trade costs in this sector in order to maximize the export potential of agricultural goods. The ESCAP study presented in Part II, chapter III, found that trade costs in the agricultural sector were typically twice as high as those in the manufacturing sector (figure 11). Agricultural trade costs within each of the different Asian subregions and country groups were also not found to differ sharply – especially when excluding tariffs. The study observed that agricultural tariffs were below 5% in most subregions; however, they remained high South Asian countries (SAARC) as well as between East and North-East Asian countries (ENEA). Nevertheless, agricultural trade costs overall appeared to have fallen between most subregions and country groups between 2008 and 2013 – although improvements were slower in Asian subregions compared to developed country groups such as the European Union or NAFTA.

Figure 11. Agricultural and manufacturing comprehensive trade costs, excluding tariffs, between selected economies and Japan, 2008-2013



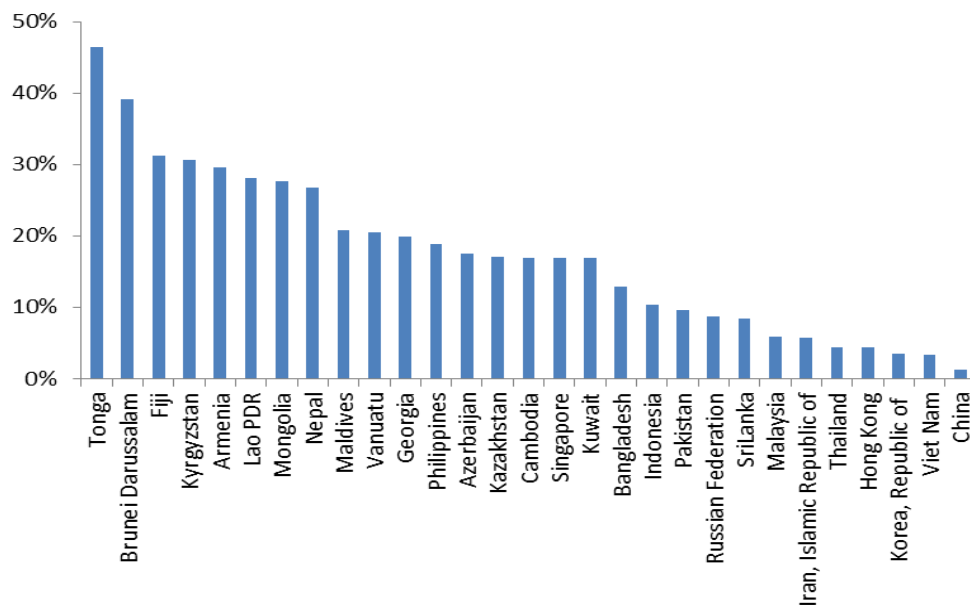
Source: ESCAP-World Bank Trade Costs Database, 2015.

Further analysis also revealed that geographic distance was the single most important factor in determining agricultural trade costs, followed by maritime logistics performance and the ease of obtaining credit. Access and use of ICT and tariffs in partner countries were also shown to account for a significant but smaller share of agricultural trade costs. Interestingly, geographic distance and tariffs ceased to remain the most important factors when considering trade costs between ASEAN and OECD countries, while maritime logistics services and non-tariff measures such as SPS/TBT requirements became key determinants. Overall, this study suggested a need for individual Asian developing countries to enhance maritime and other international services while further building capacity to comply with non-tariff measures.

4. Foreign direct investment strongly affected by trade facilitation and trade costs

In the ESCAP study featured in Part II, chapter IV, Duval and Utoktham found that countries that implemented trade facilitation reforms, and improved trade efficiency and connectivity, were generally expected to attract higher levels of FDI (figure 12). The analysis revealed that the quality of the regulatory environment was a key determinant to attracting FDI and high trade costs had a negative effect on FDI. In fact, a 1% reduction in comprehensive international trade costs – excluding tariffs – between the source and host countries was shown to be associated with an average 0.8% increase in FDI. Higher import tariffs in the host country were also shown to have a significant but negative impact on FDI flows.

Figure 12. Impact of trade cost improvements on FDI in selected Asia-Pacific countries



Source: Duval and Utoktham, 2014b.

The study demonstrated that if high tariff countries in the Asia-Pacific region reduced tariffs to the developing country average, FDI inflows to the region would be expected to increase by around 6%-7%. Similarly, if measures were taken by high trade cost countries in the Asia-Pacific region to reduce overall trade costs to the developing country average, FDI inflows to the region would be expected to increase by around 20%. A moderate improvement in the quality of the domestic business environment by an average of just 10% was also shown to be associated with a 60% increase in FDI inflows. An improvement in liner shipping connectivity of all lagging countries in the sample to the developing country average would also be expected to increase FDI significantly. However, improving liner shipping connectivity may require substantial investment in maritime infrastructure across many economies. Overall, the study supported the view that trade facilitation – especially reducing trade costs – should be a core component of any FDI development strategy.

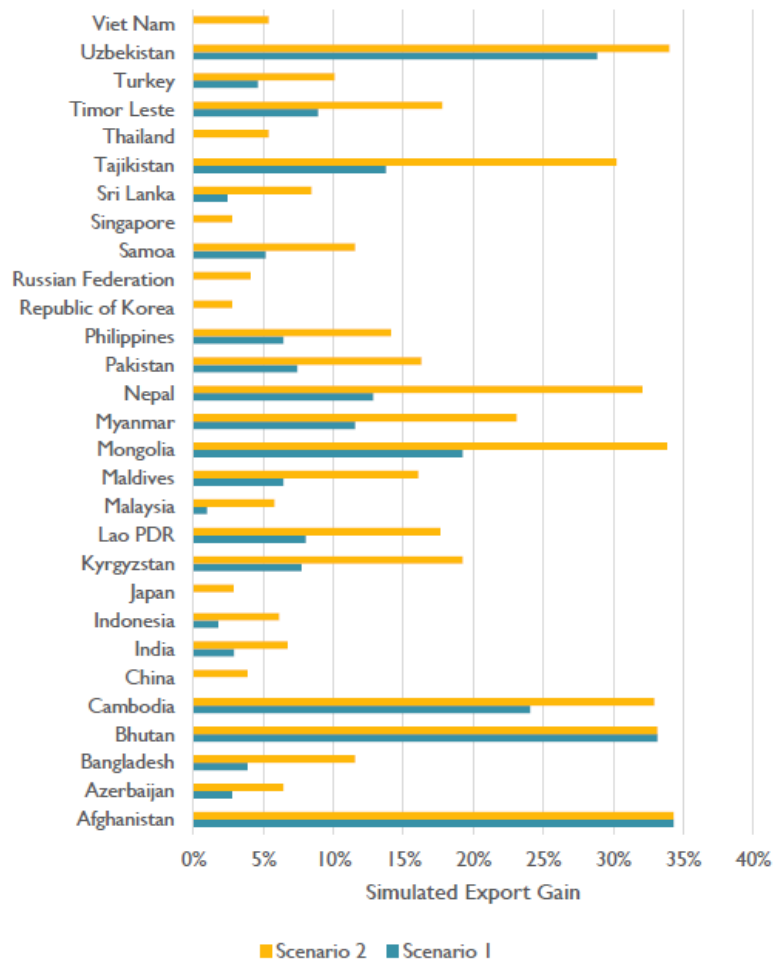
5. Significant benefits associated with cross-border paperless trade implementation

Cross-border paperless trade may be generally defined as trade taking place on the basis of electronic communications, including the exchange of trade-related data and documents in electronic form between relevant stakeholders across borders. In the ESCAP study presented in Part II, chapter V, Shepherd and Duval (2014) found that there were substantial economic benefits – export gains and saving in lower trade costs – of implementing cross-border paperless trade reforms (figure 13). Using data from the ESCAP Trade Facilitation Survey (2014), the study found that partial implementation of cross-border paperless trade was associated with a US\$ 36 billion increase in annual exports, while full implementation was associated with a US\$ 257 billion increase in annual exports. The time to export was expected to fall by 24% to 44%, and direct costs were expected to fall by 17% to 31%. The direct cost savings to trade in the Asia-Pacific region were estimated at US\$ 1 billion annually. These estimates were likely to be in the lower range of potential gains because the model did not take into account the dynamic gains of multilateral implementation of cross-border paperless trade.

A key policy recommendation from the analysis was that the implementation of cross-border paperless trade measures had as much potential to reduce trade costs and to boost intraregional and extraregional trade as more traditional trade facilitation measures. Even countries with stronger implementation of paperless trade were found to have areas where improvements could be made. In countries with little or no implementation of paperless trade measures, the recommendation was to begin by implementing general paperless initiatives such as customs automation and an electronic Single Window.

By getting involved in regional cooperation on cross-border paperless trade at an earlier stage, countries that require more fundamental reform could avoid having to re-engineer the process at a later point, and thereby benefit from overall implementation cost savings. Nevertheless, Aid for Trade and capacity-building to support reform processes should be an integral part of the process of implementing cross-border paperless trade reforms. Going forward, a strong regional arrangement among ESCAP member States would be needed to address the complex legal and technical challenges associated with exchanging electronic trade data and documents across borders.

Figure 13. Simulated export gains under partial (scenario one) and full (scenario two) implementation of cross-border paperless trade



Source: Shepherd and Duval, 2014.

E. The way forward

Significant progress has been made by countries in the Asia-Pacific region in reducing tariffs during the past decade; however, further efforts must be made to address non-tariff barriers to trade. Implementation of trade facilitation measures – including but not limited to those featured in the WTO Trade Facilitation Agreement – are critical to reducing trade costs and increasing participation in global value chains and international production networks. It is therefore important to undertake trade facilitation reforms in a comprehensive manner, rather than focusing on isolated measures. Research shows that improved liner shipping connectivity is critical to reducing trade costs in the Asia-Pacific region; however, this is likely to be challenging for LDCs, LLDCs and SIDS because of the financial cost associated with developing the required infrastructure. In such circumstances, policymakers could focus on: (a) liberalizing logistics; (b) facilitating adoption of modern information and communication technologies; (c) promoting competition among service providers; (d) improving access to credit and trade finance; and (e) strengthening transit provisions in existing agreements.

ESCAP has provided a platform for the negotiation and implementation of regional arrangements aimed at reducing trade costs and increasing connectivity for several decades. This includes one of the very first preferential trade agreements signed in the 1970s (APTA), and the Intergovernmental Agreement on the Asian Highway Network and on Dry Ports enacted in 2003 and 2013, respectively. Following the adoption of an ESCAP Resolution on enabling paperless trade for trade facilitation in 2012, ESCAP members are now negotiating the text of a unique regional treaty on the facilitation of cross-border paperless trade. The first intergovernmental steering group meeting, tasked with finalizing the agreement, highlighted the complementarity between this regional initiative and the implementation of the WTO Trade Facilitation Agreement when it met in April 2015. Regional approaches and programmes are important to ensuring that actions taken at the national level as well as decisions taken at the global level are relevant and effectively implemented. Sustained and coordinated actions at the national, subregional, regional and global levels will be essential to bringing trade costs in all developing countries to a level at which the inclusive and sustainable development benefits of trade can be reaped.

As countries invest more resources and efforts in facilitating trade and reducing trade costs, it will be important that they put in place effective national monitoring mechanisms to identify progress made as well as the remaining or emerging sources of costs along the supply chain. The trade and transport facilitation monitoring mechanism (TTFMM) developed by ADB and ESCAP may be particularly relevant in that context.¹⁴ Continuous efforts may also be needed by international organizations to further refine indicators of trade facilitation performance and collect cross-country data in this area. This includes further development by ESCAP of a new database of trade costs in services (box 2) and the regular update of the global United Nations Regional Commissions Joint Survey, which provides data on implementation of 38 trade facilitation and paperless trade measures in 44 Asia-Pacific countries and 119 economies globally.

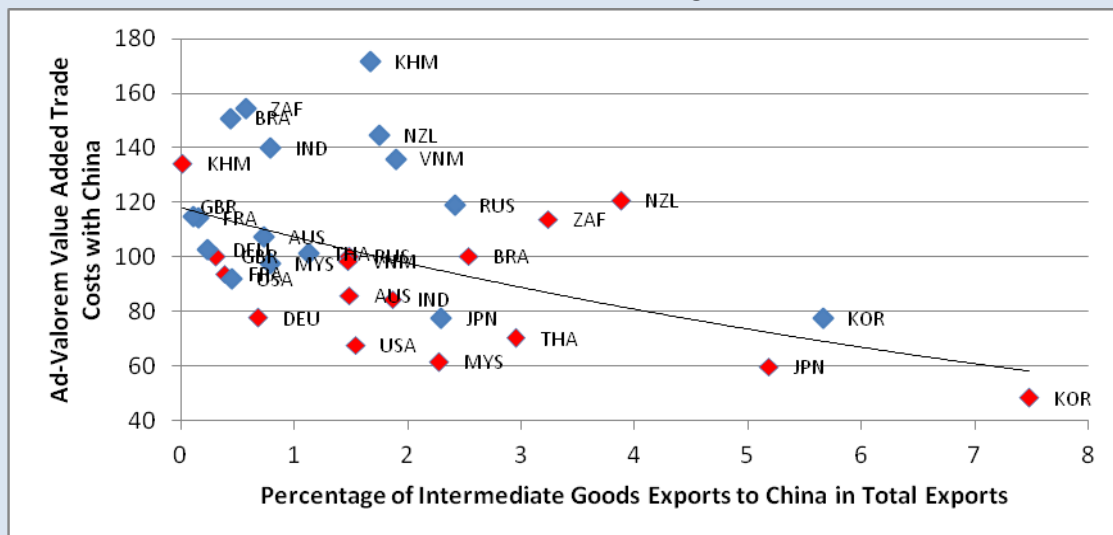
¹⁴ www.unescap.org/resources/towards-national-integrated-and-sustainable-trade-and-transport-facilitation-monitoring

Box 2 . Measuring value-added trade costs in services

UNCTAD (2015) reported that global services exports accounted for around 20% of total goods and services trade, increasing by 5.5% in 2013 alone. This share is even higher across developing economies, with the services sector accounting for 51.4% of GDP in 2010. While there have been many attempts to comprehensively measure bilateral trade costs in the goods sector (i.e., the ESCAP-World Bank Trade Cost Database), there have been very few attempts to measure trade costs in the services sector, mainly due to severe data limitations on the gross trade side and gross output side. Measuring trade costs in the services sector is critical to developing more targeted trade facilitation measures for reducing the cost of trade.

In that context, Duval, Saggu, and Utoktham (2015) combined increasingly available trade in value-added data and more commonly available national sectoral GDP data to develop the very first Value-Added Trade Cost Database (2015) – for goods and services – both at the national and the disaggregated sectoral levels. The study observed that value-added trade costs declined as countries became increasingly integrated into IPNs and GVCs (see figure below). Across developed and developing economies, value-added trade costs were, on average, found to be much higher in the services sector compared with the goods sector. Higher trade costs in services tended to be associated with high trade costs in goods, and vice versa. Value-added trade costs were found to be lowest in East Asia-3 compared with other regional groups in the Asia-Pacific region, and even lower than EU-3 from 2005 onwards.

Value-added trade costs with China and integration in to GVCs



Source: Duval, Saggu and Utoktham, 2015.