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Behind the Border Trade Facilitation in Asia-Pacific: Cost of Trade, Credit Information, Contract Enforcement and Regulatory Coherence

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Executive Summary

The performance of Asia-Pacific countries in terms of both trade and business facilitation varies greatly. However, with a few exceptions, developing countries in the region have much room for improvement. This paper evaluates the potential contribution of both trade and business facilitation measures to trade and export competitiveness, as well as the potential gains from adopting a more integrated and coherent approach to trade and business (investment) facilitation.

The analysis confirms that measures aimed at reducing the behind and at-the-border cost of exporting, such as reductions in customs and port fees and charges, and improvements in transport infrastructure and logistics services, can be expected to have a significant impact on trade. A 5% reduction in the cost of moving goods from the factory floor to the deck of a ship at the nearest port is found to increase exports by 4% or more.

However, it also reveals that improving the domestic business (investment) environment may have an impact on export competitiveness of a magnitude similar to the trade and transport facilitation measures. In particular, it finds that simplifying domestic contract enforcement procedures in Asian developing countries to the OECD average may increase exports by up to 27%. Similar improvements in credit market information in Asia may increase exports by up to 16%.

The study also finds evidence that achieving similar performance levels across the range of trade and business facilitation areas, i.e., having a more integrated approach to trade and business facilitation, could significantly increase trade competitiveness. Gains from improvements in business regulatory coherence in Asia could generate an additional 3% average increase in bilateral exports for countries of the region.

While the estimates presented should be taken as indicative and actual gains from improvement in different areas will vary greatly across countries depending on their current performance level in each area, the study provides strong evidence that policy makers should take a holistic approach to trade and business (investment) regulations to ensure limited resources can be used to tackle the most pressing regulatory bottlenecks and impediments. More specifically, the results imply that trade officials should seek to actively develop cooperation and communication channels with other ministries and institutions in charge of different types of business regulations – in particular, those related to credit information and contract enforcement.

Introduction

The global crisis which began in 2008 has had a devastating effect on trade flows. Many countries in Asia and the Pacific have experienced double digit falls in exports, as key foreign markets for goods and services suddenly collapsed. While there are signs that the global demand will recover, it has become clear that the recovery is likely to be slow and partial, as access to credit in many developed countries ultimately becomes more difficult. As firms compete more intensely to secure a share of the smaller global market, countries should accelerate implementation of trade and business facilitation reforms and measures to ensure their firms remain competitive.

The ability of countries to competitively produce and supply a product of interest to others is essential. A country's productive capacity is arguably determined in large part by its "behind the border" (domestic) policies, in particular – in market economies – its policies related to business sector development. In the context of trade facilitation, where the focus in on rationalizing procedures, this implies a need for policy makers to look beyond at-the-border trade procedures[1] and into the regulations affecting existing and potential importers and exporters within the broader domestic business environment. In particular, the existence of a coherent and integrated trade and business (investment) regulatory framework may be decisive in enhancing export competitiveness.[2]

The purpose of this paper is therefore to evaluate the potential contribution of both trade and non-trade specific business facilitation measures to trade and export competitiveness, as well as the potential gains from adopting a more integrated and coherent approach to trade and business (investment) facilitation.[3] The paper makes several new contributions to the existing body of literature on the impact of behind the border regulations and business environment on trade. For example, by distinguishing between trade and non-trade specific regulatory measures, the analysis provides estimates of how important business regulations typically outside the purview of trade and customs authorities affect trade. The impact of credit information quality – a key to enabling financial institutions to provide efficient trade finance services – on trade flows is quantified for the first time. Most importantly, however, the paper develops a simple way to test for the existence of synergies among trade and business regulations, providing estimates of the importance and additional trade gains associated with achieving a more uniform performance across a wide range of trade and business facilitation areas – suggesting that a country is tackling trade and business (investment) regulations in an integrated manner based on the dynamic identification of weakest links in the trade and business environment.

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[1] At-the-border procedures may be understood mainly at customs clearance procedures and related trade documents and regulations, as well as procedures at the port, including cargo handling.

[2] Case studies and private sector surveys conducted by ARTNeT (www.artnetontrade.org) in Bangladesh, Nepal, and Sri Lanka, revealed that businesses perceived that many non-trade and non-investment specific policy issues affect their ability to trade and/or invest. Focusing more on developing business facilitation and competitiveness policies, regardless of whether the businesses are domestic or foreign owned, may actually be more effective in increasing trade and investment. See Duval et al. (2008).

[3] While an emerging body of literature has thought to evaluate the importance of selected trade facilitation measures/areas, the inter-linkages between measures/areas have generally not been taken into account. Indeed, recommending that, for example, making ports more efficient be the top priority as it is found to be, on average across a wide range of countries, the most important trade facilitation measure in boosting trade, may not be appropriate if the impact of port improvement is significantly affected by whether (or not) port improvements are accompanied by improvements in other areas. No models have so far explicitly taken into account these links and potential synergies, although trade facilitation practitioners have long advocated the need for integrated trade facilitation strategies and pointed to the importance of sequencing – including parallel/simultaneous implementation of some measures (e.g., ESCAP, 2007).

Trade and Business Facilitation in Asia and the Pacific

A main source of cross-country information on trade and business facilitation is the Doing Business database, maintained by the World Bank.[4] The average "Ease of Doing Business" ranking of countries within each subregion in Asia and the Pacific is shown in Figure 1. The ranking provides an indication of how easy it is to conduct business, including - but not limited to - trading across borders, in each country. A higher average rank indicates poorer business facilitation performance and 181 countries are included in the ranking. Landlocked countries, which face unique geographical constraints, are excluded from the subregional averages and reported as a separate group. As a group, they rank most poorly but have made some progress between 2006/7 and 2007/8.

Sharp differences exist between the level of business facilitation across subregions.[5] The performance of the East and Northeast Asia subregion approaches that of the OECD group. Other subregions perform much more poorly, in particular South and Southwest Asia. Asia-Pacific landlocked countries, Southeast Asia and East and Northeast Asia are the only subregional country groups which have progressed on business facilitation over the past 2 years, "catching up" with the OECD group whose average relative performance fell slightly. This does not mean that national governments in other subregions did not work towards business facilitation, however, but that whatever progress they may have achieved did not increase their world standing as other countries achieved relatively more progress in this area.

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[4] Online access is available at http://www.doingbusiness.org. Details on methodology used for data collection and its limitations are available on the site.
[5] The North and Central Asia subregion only includes Georgia and Russia as all other ESCAP member countries in that region are landlocked.

Figure 1: Business Facilitation in Selected Subregions of Asia and the Pacific
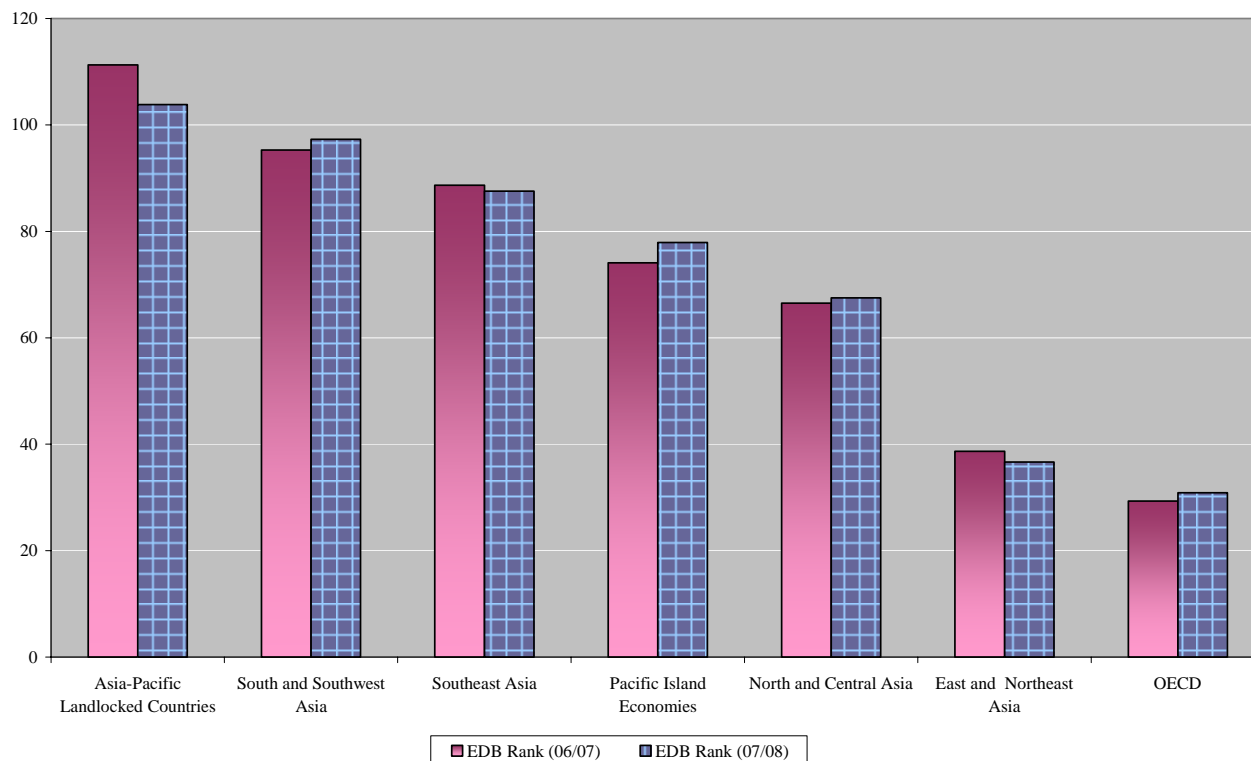
Source: Doing Business Report, the World Bank (http://www.doingbusiness.org)
Note: (1) Overall Ranks of Ease of Doing Business are derived from the simple average of the percentile ranking of both behind the border and trading-across-border components. (2) Countries in each category are as follows: (a) Landlocked: Armenia, Azerbaijan, Kazakhstan, Kyrgyz Republic, Tajikistan, Uzbekistan, Lao PDR, Afghanistan, Bhutan, Nepal, Mongolia; (b) North and Central Asia: Georgia, Russian Federation; (c) Southeast Asia: Brunei, Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, Timor-Leste, Vietnam; (d) South and Southwest Asia: Bangladesh, India, Iran, Maldives, Pakistan, Sri Lanka, Turkey; (e) East and Northeast Asia: China, Hong Kong (China), Korea (Rep. of); (f) Pacific: Fiji, Kiribati, Marshall Islands, Micronesia, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu.

The relative performance of each subregion in trading across borders is shown in Figure 2, using some of the indicators underlying the overall Doing Business ranking discussed earlier. The average number of required trade documents[6] in all Asia-Pacific subregions is higher than for OECD as a group.[7] Interestingly, however, the actual cost of export and import – calculated as the cost to bring goods from a factory located in the largest city of the country to the deck of a ship at the nearest sea port - from a number of Asia-Pacific subregions, is found to be lower than in OECD as a group.[8]

The average number of documents and time required is generally lower for exports than for imports. Again, East and Northeast Asia and Southeast Asia perform best among the five Asia-Pacific subregions considered, followed by Pacific Islands, South and Southwest Asia and North and Central Asia. Landlocked countries understandably perform worst both in terms of documents and time.

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[6] For exporting goods, procedures range from packing the goods at the factory to their departure from the port of exit. For importing goods, procedures range from the vessel's arrival at the port of entry to the cargo's delivery at the factory warehouse. Payment is made by letter of credit. For details on the assumptions underlying the estimates, see: http://www.doingbusiness.org/MethodologySurveys/TradingAcrossBorders.aspx

[7] This is also true for the time needed for import and export, although this is not included in figure 2.

[8] This may be explained by the lower labor costs and also sometimes the more low-tech and time consuming transport and port systems used in some of the developing countries in the region – as compared to the OECD average.

Figure 2: Documents and Costs for Export and Import
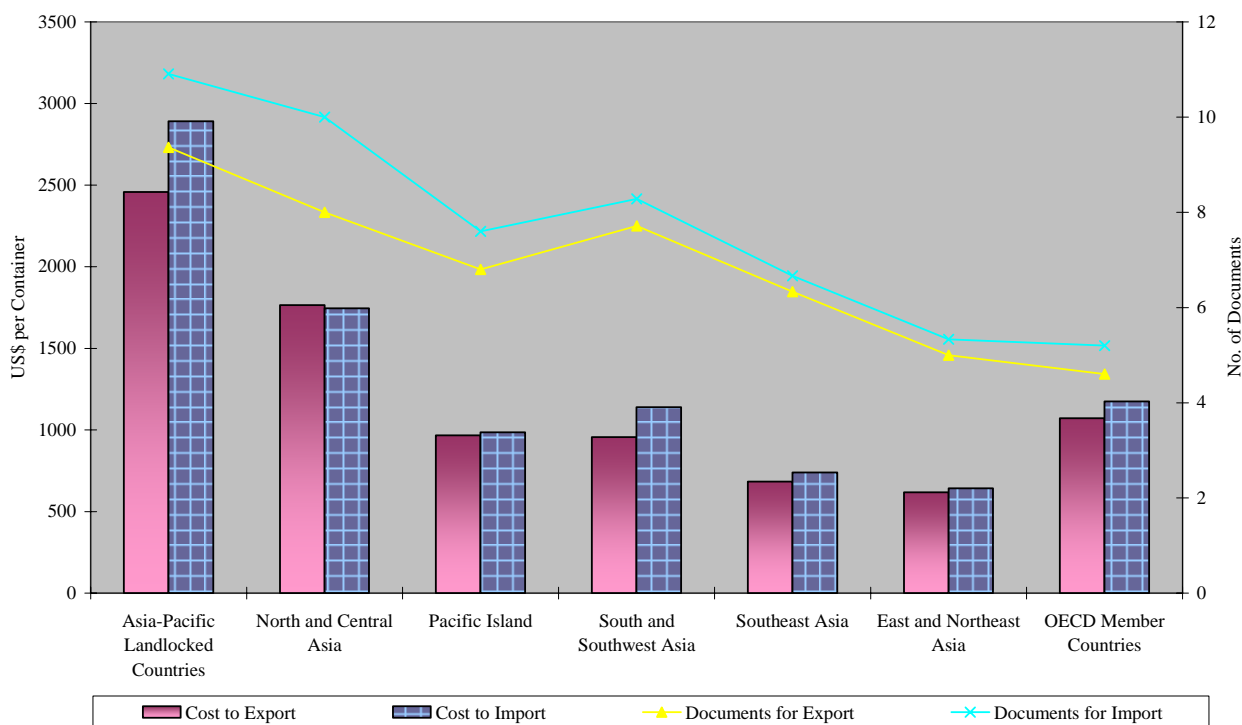
Source: Doing Business Report 2009, the World Bank (http://www.doingbusiness.org)
Note: Sub-regional average is excluding landlocked countries

Business Facilitation country rankings are provided in Annex 1, including rankings in the 10 sub-areas that are used to derive the overall Doing Business rank. These rankings show much variation within sub-regions and across the region. For example, Singapore ranks among the very best in the world on a large number of indicators (in particular trading across borders), while Lao PDR, a country in the same sub-region, has one of the least facilitative environments for trade and business.

Another interesting insight from the country rankings is that a developing country that does well in the area of trading-across borders does not necessarily do well in other business facilitation areas. For example, Indonesia performs relatively well in the area of trading across borders (37th) but much more poorly in other areas of business facilitation (119th). In contrast, Nepal, which performs very poorly in the area of trading-across borders (157th) - in large part due to its landlockedness – ranks significantly better in other areas of business facilitation (99th).

Overall, only a weak positive correlation can be identified between the trading across borders performance and the business (investment) facilitation performance in developing countries. This disconnect is much less apparent in the case of developed countries, suggesting that it is indeed important to tackle trade and business facilitation in an integrated manner.

Figure 3: Behind the Border Trade vs. Business Facilitation Performance
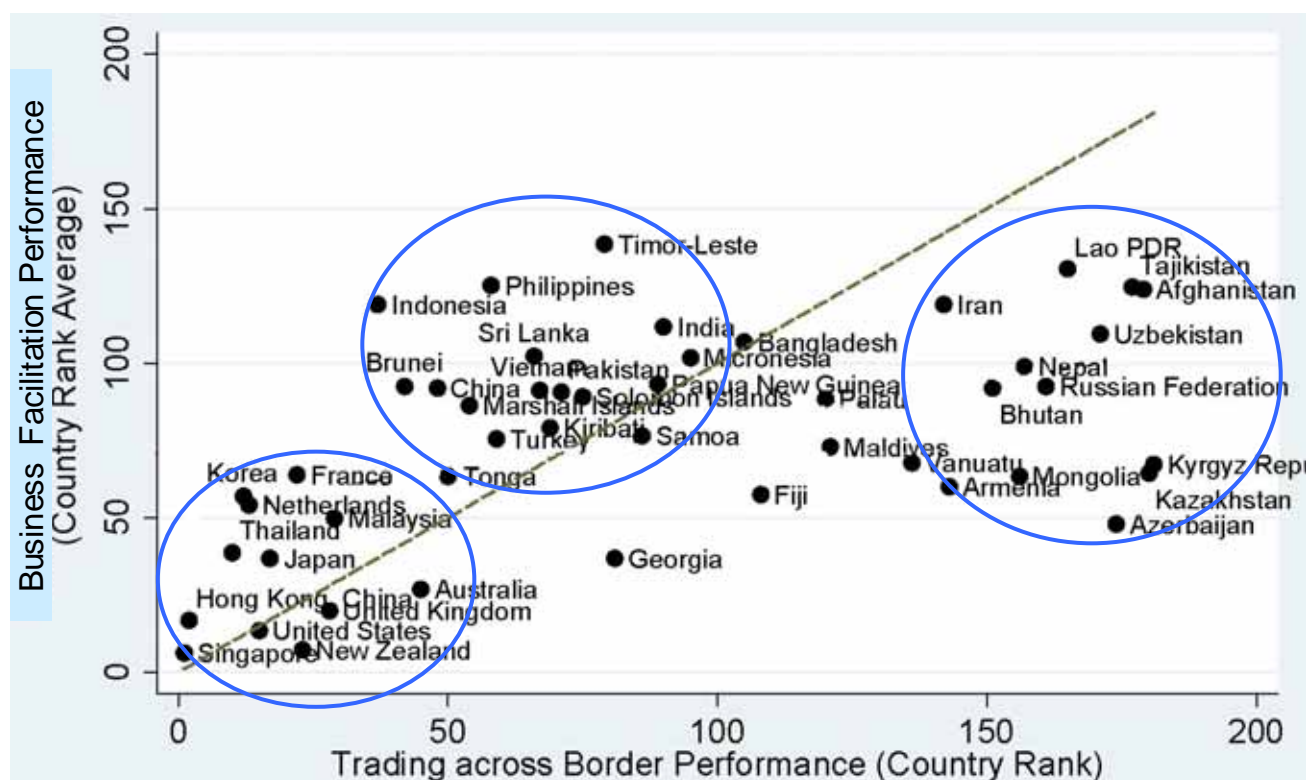
Figure 3 shows how well countries perform in terms of both trading across borders and other doing business indicators. Countries above the line do relatively better in facilitating trading across borders than in other areas of business facilitation, while those below the line put relatively less emphasis – or do less well - on trading-across border relative to other business facilitation measures. Three groups of countries seem to emerge from the figure: (1) Developed and advanced developing countries that do well on both trading across borders and other facilitation measures, having developed a good balance between the various trade-focused and general business facilitation measures; (2) Developing countries, many of them middle-income economies who have emphasized trading-across border relative to more general business facilitation measures; and (3) Landlocked countries and economies in transition, who have been unable to improve their trading across borders performance. Overall, the figure suggests that middle-income developing countries, as they strive to catch up with the first group of developed countries, may have to reach a better balance between trading across borders facilitation measures and business facilitation.

How important is behind the border trade and business facilitation?

Methodology

There is increasing evidence that Behind the Border (BtB) policies matter for trade performance. Hoekman (2008)[9] mentions poor roads and ports, poorly performing customs, weakness in regulatory capacity, and limited access to finance and business services as some of the BtB factors affecting trade. Wilson, Mann and Otsuki (e.g., 2004) extended the gravity model to trade facilitation measures and

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[9] Global Monitoring Report 2008, Chapter 4 "Harnessing Trade for Inclusive and Sustainable Growth".

related BtB factors. In addition to two indicators specifically affecting cross-border transactions - Port efficiency and Customs transparency -, they considered the impact of the overall regulatory environment of each country as well as the quality of the service sector infrastructure – proxied by use of internet by businesses and speed and cost of internet. They found that the two BtB indicators significantly affected trade flows, each having a comparatively greater impact on trade flows than the transparency of Customs procedures. Hur et al. (2006) confirmed the importance of services on trade patterns, showing that the level of financial development was an important determinant of trade in industries characterized by intangible assets in particular.

Few other studies have examined the impact of BtB regulations and regulatory quality on trade, most of them by extending the gravity model to include relevant regulatory indicators. Ranjan and Lee (2007) used a gravity model to show that trade volumes were affected by the enforcement of contracts. Cuñat and Melitz (2007) focused on the impact of labor market flexibility on trade, while Anderson and Marcoulier (2002), Depken and Sonora (2005), and Levchenko (2007) all showed that institutional quality significantly affected trade patterns. Francois and Manchin (2007) also tested the importance of a regulatory quality indicator (measuring the incidence of market-unfriendly policies) along with five other governance indicators - constructed earlier by Kaufman, Kraay and Mastruzzi (2005) – finding all of them to have important positive impacts on both the value of exports and the probability of exporting. Helble et al. (2007) focused on the effect of transparency in customs administration and trade policy on trade. They find that improving transparency in the importing country has a significant and positive impact on intra-regional trade in the APEC region.

Overall, the recent literature suggests that trade facilitation measures and the prevailing business environment in the trading countries have a significant effect on trade development. However, available studies tend to either include one or a very small set of specific trade facilitation, regulatory, or infrastructure indicators in their models (e.g., Nordås and Piermartini, 2004) or, on the contrary, aggregate a large number of indicators into an overall index (e.g., Helble et al., 2007). The first approach typically leads to overestimating the impact of the included indicator or measure, while the second yields limited insights for policymakers as it becomes impossible to prioritize policy options and measures. Also, none of the studies makes a clear distinction between international trade specific facilitation measures and other BtB business or investment facilitation measures, as discussed here.

Taking this into account, the following gravity model specification is developed in this paper:

$$IMPORT_{ij} = \beta_0 + \beta_1 CULT_{ij} + \beta_2 LANDLOCKED_{ij} + \beta_3 DISTANCE + \beta_4 GDPNOM_i +$$
$$\beta_5 GDPNOM_j + \beta_6 COSTI_i + \beta_7 COSTE_j + \beta_8 BFP_i + \beta_9 BFP_j + \beta_{11} TARIFFW2$$

where,

$IMPORT_{ij}$	is the value of imports of country i (importer) from country j (exporter)
$CULT_{ij}$	is a set of dummy variables of cultural distance, namely, CONTIG, COMLANG_OFF and COMCOL
$LANDLOCKED_{ij}$	is a dummy variable capturing landlockedness of either trading partner (reporting or/and partner country is landlocked = 1)
$DISTANCE_{ij}$	is bilateral distance in kilometers
GDPNOM	is nominal GDP
COSTE / COSTI	denotes behind and at-the-border trade cost in the export and import costs in country j and i, respectively,
BFP	denotes behind the border business performance, and
$TARIFFW2_{ij}$	is weighted average import tariff imposed by country i on country j

The estimation is done using ordinary least squares and a one-year (2006) cross-country dataset of 37 countries, i.e., countries from Southeast, South, North, and Northeast Asia, OECD countries, as well as Brazil, Russia and South-Africa - as large emerging economies – are included (Model A1-A3). In order to make the results more directly relevant to the region and to further assert the robustness of the results, the models are also estimated excluding all OECD countries outside the Asia-Pacific region (Model A4-A6).

Import and export costs are taken from the Doing Business Database. BtB business performance is first modeled as the average of each country's rank in all Doing Business areas[10] excluding *Trading across Borders* (Model A1 and A4). However, in an effort to identify particular areas of importance within the overall business environment, the aggregate indicator of BtB business performance is subsequently replaced by indicators related to three areas thought to be of particular importance for trade development, i.e., *Getting Credit*, *Protecting Investors*, and *Enforcing Contracts* (Model A2 and A5).[11] Information on the selected indicators, including performance of Asia-Pacific countries in each of the three areas as implied by the chosen indicators, is provided in Box 1 and Annex 2.

The definition, source and expected signs of all variables used in the models presented in this paper are in Table 1. Except for dummy variables, all variables are transformed using natural logarithm and log-log models are estimated. In an effort to take into account the multilateral resistance terms found in theoretically founded gravity model (Anderson and van Wincoop, 2003), we also estimate the model with importer fixed effects while retaining the ability to include exporter specific factors in the model (Model A3 and A6).

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[10] The 10 areas covered by the Doing Business database are: Starting a Business, Dealing with Construction Permits, Employing Workers, Registering Property, Getting Credit, Protecting Investors, Paying Taxes, Trading Across Borders, Enforcing Contracts, and Closing a Business.
[11] In order to minimize multicollinearity problems and to retain interpretability of the coefficients, indicators representing each area are selected so that their correlations are below 0.5.

Box 1 - Importance of Trade Finance and Credit Information in Asia-Pacific

Regulations related to getting credit are thought to be of particularly importance for traders. An average international transaction – from the signature of the contract to delivery of goods and payment – takes time and short-term financing is often essential, particularly for exporters from the region who most often sell their goods on an open account basis – i.e., payment is made after delivery of goods to buyers. In addition, access to affordable domestic financial services is essential for exporters conducting business in developing countries where buyers have little or no access to financing, and where risks are high.[12]

Given that the ability of financial institutions to provide cost-effective services depends in large part on the availability of information necessary to assess the creditworthiness of their client, a credit information index is included in the model. This index measures the scope, accessibility and quality of credit information through either public or private bureaus in a country. The index ranges from 0 to 6, with a higher value indicating that more credit information available to facilitate lending decisions.

Credit Information in Selected Asia-Pacific Countries
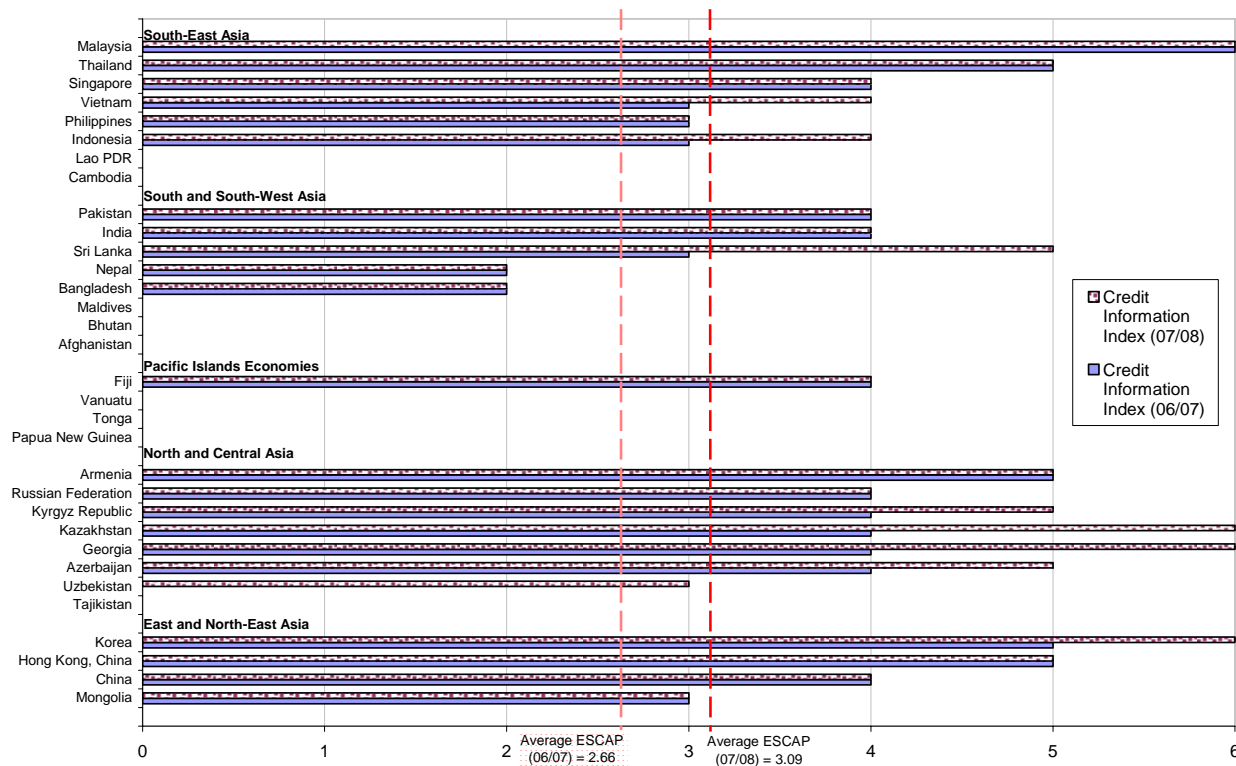
As shown in the above figure, serious deficiencies in credit information are apparent in the South Pacific as well as in most least developed countries, regardless of the subregion. Interestingly, North and Central Asian countries, with the exception of Tajikistan and Uzbekistan, seem to be relatively well equipped in this area and credit information has improved significantly between 2006/7 and 2007/8 in that subregion.

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[12] The current financial crisis has provided a useful reminder of how essential trade finance is to international Trade (Wei and Duval, 2009). See also, ESCAP/ ITC (2004).

Table 1: Variable Names, Definitions and Expected signs

Variable Name (in STATA)	Source	Expected Sign	Description
import	WITS		nominal import between reporting (importing) and partner (exporting) country in thousands of US$.
contig	CEPII	+	Dummy variable indicating "1" if 2 countries are contiguous and "0" otherwise.
comlang_off	CEPII	+	Dummy variable indicating "1" if 2 countries share official language and "0" otherwise.
comcol	CEPII	+	Dummy variable indicating "1" if 2 countries have had a common colonizer after 1945 and "0" otherwise.
Landlocked12	CEPII	-	Dummy variable indicating "1" if either reporting or partner country is landlocked and "0" otherwise.
Distance	CEPII	-	geodesic distance, following the great circle formula, which uses latitudes and longitudes of the most important cities/agglomeration (dense of population) in kilometers between reporting country and partner country.
Gdpnom1 / gdpnom2	WDI	+	nominal GDP of reporting / partner country in thousands of US$
coste1 / costi2	DB	-	cost to import / export (US$ per container) of reporter / partner, where cost of export is obtained from "Trading Across Borders" category.
bfp1 / bfp2	DB	-	Average reporting / partner country rank across 9 EDB areas (all but Trading Across Borders)
Tbfc1 / tbfc2			Trade and business facilitation coherence index
Getloan_creditinfo1 / getloan_creditinfo2	DB	+	credit information index of reporter / partner is obtained from "Getting Credit" category: The index measures rules affecting the scope, accessibility and quality of credit information available.
invprotect_disclos1 / invprotect_disclos2	DB	+	disclosure index of reporter / partner is obtained from "Protecting Investor" category: The index ranges from 0-10, with the higher value indicating greater disclosure.
contenforce_steps1 / contenforce_steps2	DB	-	procedures (number) of reporter / partner, which is obtained from "Enforcing Contracts" category: The indicator measures numbers of procedures mandated by law or court regulation that demand interaction between parties, or between them and the judge (or administrator) or court officer.
Tariffw2	WITS	-	Trade-weighted effectively import tariff applied by reporter on partner

Note:
CEPII: French Research Center in International Economics (http://www.cepii.fr)
DB: Doing Business Website (http://www.doingbusiness.org)
WDI :   World Development Indicator, the World Bank (http://www.worldbank.org/data)
WITS: World Integrated Trade Solution, Joint collaboration between the United Nations and the World Bank (http://wits.worldbank.org/witsweb)

Results

Results are reported in Table 2. The standard gravity variables all have the correct signs. Both the distance between trading partners and their respective economic size, proxied by GDP, are highly significant. Whether one or more of the trading partners is a landlocked country is also highly significant across all models, which is consistent with our descriptive analysis of the data.

When bilateral trade with and among OECD countries are included in the sample, import tariffs are found to have no significant effects on bilateral trade flows when BtB trade cost and business

facilitation performance are accounted for. However, tariffs remain significant when non-Asian countries are excluded, consistent with the fact that tariffs between developing countries remain high.[13]

In contrast to the mixed significance of tariffs,[14] the impact of both BtB trade and business facilitation performance on bilateral trade is found to be highly significant regardless of whether or not trade flows of OECD countries are included. Trade costs in the exporting country are found to have a more important impact on bilateral trade than those in the importing country, highlighting the crucial role of national trade facilitation initiatives to boost export competitiveness. In other words, making trade-related rules, procedures and infrastructure at home more efficient is a key step for governments seeking to enhance the competitiveness of their exporters.[15] On the importing country's side, import tariffs are more important than BtB import costs when facilitating imports from countries of the region and other developing countries, suggesting the potential for further South-South tariff liberalization.

The overall business (investment) environment in both the importing and exporting country is important for bilateral trade development. From an exporter's point of view, this suggests the potential benefit of international agreements and conventions that encourage business regulatory reforms in partner countries, e.g., bilateral or plurilateral investment or services agreements.

Among the sub-areas considered in the analysis, the efficiency of contract enforcement in the two trading partners is consistently found to be a significant factor for trade development. This result is consistent with those of Ranjay and Lee (2003) who found that efficiency of contract enforcement affects the volume of trade in differentiated goods, and to a lesser extent homogeneous goods.[16]

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[13] Ratna (2009).

[14] Because of the potential endogeneity of trade weighted tariff averages, we re-estimate the model using simple average tariff as a robustness check, but find very similar results.

[15] The fact that import costs affects bilateral trade flows less than export costs can be explained by the fact that BtB import costs of firms in the importing country will tend to affect total imports of that country rather than its bilateral import flows. In contrast, export costs in the exporting country mainly affects the bilateral trade flow: higher export costs will reduce the competitiveness of goods relative to that in other exporting countries, make it more likely that firms in the importing country will source from other exporting countries instead.

[16] As an additional robustness check, the model is re-estimated using both importer and exporter fixed effects, with importer and exporter specific variables replaced by interaction variables between importer and exporter variables. Results are consistent with those presented in this study and the contract enforcement interaction variable is found to be highly significant.

Table 2: Estimated Coefficients of Variables Affecting Bilateral Imports

MODELS:	A1	A2	A3	B3	A4	A5	A6	B6
Dataset:	All countries				Excluding non-Asian OECD Countries			
Dependent Variable:	Import of country 1 from country 2				Import of country 1 from country 2			
Independent Variables								
Distance	-1.078***	-1.029***	-1.170***	-1.195***	-1.215***	-0.978***	-1.007***	-1.153***
	[-17.35]	[-16.74]	[-13.05]	[-12.96]	[-9.375]	[-9.882]	[-8.351]	[-8.614]
nomgdp1	0.949***	0.837***			0.765***	0.637***		
	[44.02]	[31.10]			[15.30]	[11.05]		
nomgdp2	1.140***	1.015***	1.019***	1.043***	1.198***	0.929***	0.882***	0.936***
	[34.75]	[29.55]	[30.16]	[30.14]	[21.11]	[18.76]	[15.53]	[18.24]
costi1	-0.322***	-0.292***			-0.333	-0.181		
	[-3.693]	[-3.211]			[-1.303]	[-0.842]		
coste2	-0.832***	-0.841***	-0.842***	-0.781***	-0.691***	-0.807***	-0.802***	-0.668**
	[-7.789]	[-7.768]	[-10.00]	[-8.620]	[-2.673]	[-3.586]	[-3.545]	[-2.821]
Tariffw	-0.842	0.521	0.194	0.243	-2.182**	-1.345**	-1.568	-1.651
	[-1.407]	[1.034]	[0.224]	[0.299]	[-2.214]	[-2.110]	[-1.158]	[-1.310]
bfp1	-0.414***				-0.302***			
	[-8.280]				[-3.439]			
bfp2	-0.372***				-0.572***			
	[-6.819]				[-7.985]			
getloan_creditinfo1		1.107***				0.252		
		[5.904]				[0.892]		
investprotect_disclosure1		0.122				0.159		
		[0.789]				[0.632]		
contractenforce_steps1		-1.260***				-1.575***		
		[-5.500]				[-4.546]		
getloan_creditinfo2		0.486**	0.469***	0.360**		0.930***	1.059***	1.087***
		[2.509]	[3.006]	[2.483]		[3.106]	[3.533]	[3.557]
investprotect_disclosure2		0.271***	0.405***	0.357***		0.103	0.127	0.0735
		[2.825]	[5.462]	[5.207]		[0.445]	[0.534]	[0.330]
contractenforce_steps2		-1.432***	-1.471***	-1.183***		-1.559***	-1.637***	-0.446
		[-6.619]	[-6.959]	[-5.397]		[-3.993]	[-4.177]	[-0.839]
Brci2				-0.154***				-0.303***
				[-3.435]				[-4.737]
Contig	0.474	0.817***	0.697**	0.738**	0.795	1.104***	1.153**	1.193**
	[1.160]	[2.646]	[2.410]	[2.531]	[1.497]	[2.641]	[2.565]	[2.639]
comlang_off	0.275***	0.397***	0.107	-0.000	0.0502	-0.0906	-0.128	-0.245
	[2.597]	[4.075]	[0.886]	[-0.003]	[0.324]	[-0.617]	[-0.928]	[-1.595]
Comcol	0.476*	0.157	0.365	0.36	-0.234	-0.511**	-0.274	-0.261
	[1.918]	[0.660]	[0.988]	[1.004]	[-0.964]	[-2.221]	[-0.867]	[-0.866]
landlocked12	-0.409***	-0.534***	-0.325**	-0.265**	-1.665***	-2.357***	-2.568***	-2.298***
	[-3.665]	[-3.947]	[-2.531]	[-2.158]	[-4.668]	[-7.881]	[-7.058]	[-6.738]
Constant	-7.462***	-0.17	-7.172***	-7.969***	-3.785	7.101**	-2.425	-6.230**
	[-6.232]	[-0.116]	[-5.864]	[-6.698]	[-1.450]	[2.443]	[-0.950]	[-2.620]
Observations	1314	1069	1189	1189	440	357	391	391
Adj. R-Squared	0.827	0.844	0.746	0.749	0.837	0.874	0.803	0.813

t-statistics are in brackets
*** p<0.01, ** p<0.05, * p<0.1

The development of domestic credit markets is also found to be important, particularly in the importing country. This is an interesting finding in the context of the on-going global financial crisis, where trade is further hampered because of the lack of information available on the creditworthiness of buyers (importers).[17] Our results support the need for more developed credit information systems in importing countries which would enable trade finance providers and exporters to make an informed decision on whether or not to engage in trade with specific partners.[18] This result is consistent with earlier results, e.g., by Hur et al. (2006).

Regulations related to investment protection are found to be relatively less important, particularly for South-South and regional trade development. However, these regulations in the country of the exporter are found to have a potentially significant impact on exports. This can be explained by the fact that investment is a precondition to supply capacity, and hence of key importance to countries that want to develop exports.

Estimated coefficients in Table 2 can be interpreted as elasticities and can therefore provide an indication of the potential trade impact of improvements in selected variables. For example, as shown in Table 3, a reduction in the cost of imports in the importing country may increase bilateral imports by 1.5%, while a reduction in the cost of export in the exporting country is expected to increase import by the partner country (i.e., bilateral export) by over 4%.

Table 3: Impact on Trade of a 5% Improvement in Selected Areas*

Areas of Improvement	Impact on bilateral import/export (%)	Impact on intra-regional and South-South bilateral import/export (%)
Cost of Imports for Importers	1.5	
Cost of Export for Exporters	4.2	4.0
Import Tariff		6.7
Credit Markets in Importing Country (Depth of Credit Information)	5.5	
Credit Markets in Exporting Country (Depth of Credit Information)	2.4	4.6
Investment protection in Exporting Country	1.3	
Complexity of Contract Enforcement Procedures in Importing Country	6.3	7.8
Complexity of Contract Enforcement Procedures in Exporting Country	7.2	7.8

*All estimates based on results from model A2 and A5.

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[17] Interviews of Thai EXIM Bank officials conducted on 20 March 2009 revealed that, aside from the general lack of demand, the higher default risks in many export markets further hampered exports and the ability of exporters to secure trade finance.

[18] The results also suggest that the exporting country may have a clear incentive in improving the credit market in the importing country; this is being done by government backed EXIM banks of many developed countries who provide credit lines to importers in developing countries. Some developing countries are also following suit, with, e.g., the Thai EXIM Bank establishing a branch in Russia in February 2009.

Interestingly, improvements of similar magnitude in specific BtB business regulatory areas are found to have an even greater impact on bilateral trade. For example, the results suggest that improvements in the quality and availability of credit information in the exporting country can increase average bilateral exports flows by 2.4%, and average intra-regional and South-South trade flows by over 4.5%. While these estimates have to be taken as indicative only, they support the view that the domestic financial sector and credit markets are important for trade in general, and for intra-regional and South-South trade in particular.

Simplifying procedures for contract enforcement is found to have the highest impact on bilateral trade, as a small improvement in either of the trading country can increase bilateral trade by more than 6%. The contract enforcement complexity indicator may be understood as a proxy of the quality and transparency of broader BtB regulations and the rule of law, which may explain the relatively large impact associated with the indicator. The impact on bilateral trade is of similar magnitude regardless of whether the improvement happens in the importing or the exporting country. This shows the potential for international cooperation and agreements on BtB business regulations.

Is a coherent and integrated approach to behind the border trade and business facilitation important for trade development?

The importance of considering linkages between trade, investment and other BtB policies in achieving a particular outcome has been increasingly acknowledged. This can be seen in the inclusion of a growing number of trade-related - but not trade specific - issues in international trade agreement negotiations as well as the conceptualization of integrated economic policy frameworks, such as, for example, the OECD Investment Policy Framework, which brings together trade, investment, competition, governance and a number of other policies to achieve better outcomes. That being said, the existing literature offers little evidence that an integrated approach is best, and provides no quantitative estimates of potential trade gains through such an approach.

The previous section provided evidence that both BtB trade facilitation and BtB business (investment) facilitation have a significant impact on international trade. However, the models developed in the previous section do not allow us to assess whether a more coherent and integrated approach to trade and business facilitation may result in significant synergies and additional gains. In other words, it is not known whether giving priority and focusing limited resources on a few narrowly defined trade facilitation issues, as opposed to taking a more holistic and dynamic approach where trade and business/investment facilitation are continually assessed and priorities regularly reevaluated – assuming countries cannot tackle all issues in parallel – to ensure more balanced performance across all trade and business regulatory areas, may significantly affect a country's trade performance.

To examine this issue, we develop a business regulatory coherence index (BRCI), calculated as the variance of a country's rank across all ten areas covered by the Doing Business Report, including *Trading Across Borders*, i.e.,

$$\text{BRCI}_i = \frac{\sum (Rank_i - \overline{Rank_i})^2}{n-1},$$

Where $\overline{Rank_i}$ it the average of country i's rank in each of the ten areas and n=10.

Table 4: Business Regulatory Coherence - Country Rankings, 2007/8
(based on 181 countries – Lower rank indicates poorer Business Regulatory Coherence)

Economy	Business Regulatory Coherence Index Ranking	Ease of Doing Business Ranking	Business Facilitation Performance Ranking	Trading-across-Border Ranking
OECD (average)	**70**	**31**	**52**	**36**
Asia-Pacific Landlocked Countries	**134**	**104**	**89**	**167**
East and Northeast Asia	**105**	**37**	**55**	**21**
China	154	83	92	48
Hong Kong, China	13	4	17	2
Korea, Republic of	149	23	57	12
Mongolia	93	58	63	156
North and Central Asia	**111**	**68**	**65**	**121**
Armenia	128	44	60	143
Azerbaijan	179	33	48	174
Georgia	81	15	37	81
Kazakhstan	168	70	64	180
Kyrgyz Republic	170	68	67	181
Russian Federation	141	120	93	161
Tajikistan	165	159	125	177
Uzbekistan	87	138	109	171
Pacific Island Economies	**117**	**78**	**80**	**88**
Fiji	43	39	58	108
Kiribati	151	79	79	69
Marshall Islands	180	93	86	54
Micronesia	176	126	102	95
Palau	174	91	88	120
Papua New Guinea	84	95	93	89
Samoa	101	64	77	86
Solomon Islands	117	89	89	75
Tonga	89	43	63	50
Vanuatu	55	60	68	136
South and Southwest Asia	**119**	**97**	**97**	**93**
Afghanistan	181	162	124	179
Bangladesh	136	110	107	105
Bhutan	173	124	92	151
India	145	122	112	90
Iran	58	142	119	142
Maldives	178	69	73	121
Nepal	77	121	99	157
Pakistan	85	77	91	71
Sri Lanka	142	102	102	66
Turkey	86	59	76	59
Southeast Asia	**82**	**88**	**86**	**49**
Brunei	167	88	93	42
Cambodia	139	135	115	122
Indonesia	105	129	119	37
Lao PDR	49	165	131	165
Malaysia	41	20	50	29
Philippines	22	140	125	58
Singapore	1	1	6	1
Thailand	20	13	39	10
Timor-Leste	125	170	138	79
Vietnam	119	92	91	67

Therefore, a country with a low BRCI is a country that has achieved a relatively uniform performance across all areas of Doing Business. In contrast, a country characterized by a high BRCI is one where performance levels differ markedly across the various Doing Business areas, suggesting the lack of a coordinated and holistic approach to trade and business facilitation. A lack of business regulatory coherence – i.e., a high BRCI indicator value – is expected to negatively affect bilateral import/export.

As shown in Table 4, Singapore is the country with the most coherent trade and business environment.[19] Countries that rank among the best in terms of Ease of Doing Business also tend to rank well in terms of business regulatory coherence.[20] Malaysia and Thailand stand out in Asia as countries with coherent trade and business environments that are also doing relatively well in terms of overall Ease of Doing Business. In contrast, the BRCI scores of China and the Republic of Korea suggest less overall business regulatory coherence, as heavy emphasis was placed on facilitating trade across borders.[21]

Overall, countries in the East and Southeast Asia regions are found to have achieved much higher business regulatory coherence than those in South Asia and the Pacific regions (see Figure 4). Only marginal changes in BRCI ranks are observed between 2006/07 and 2007/8, except for East and Northeast Asia, where countries are found to have widely differing business facilitation and trading across borders ranks.

Figure 4: Business Regulatory Coherence in Selected Subregions of Asia and the Pacific
(A lower rank denotes higher coherence)

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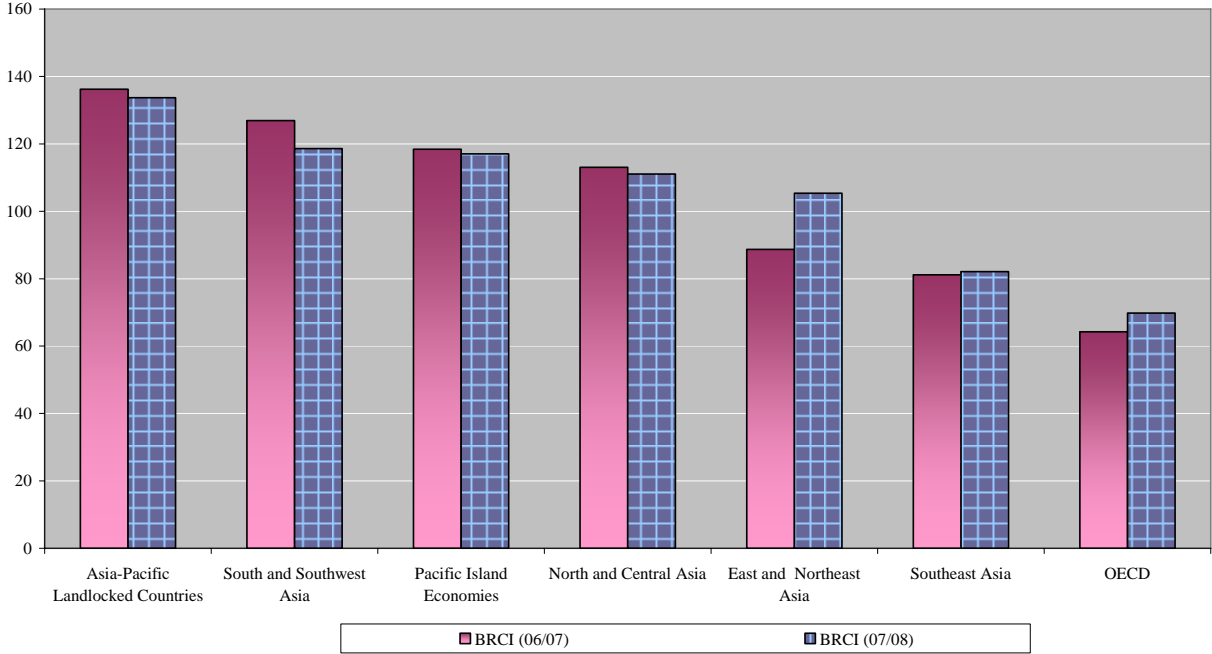
[19] The next best five countries in term of trade and business regulatory coherence are found to be: New Zealand, Denmark, United Kingdom, Canada and Australia.

[20] Some of the worst performing countries in terms of overall Ease of Doing Business also do relatively well in terms of trade and business regulatory coherence, since they rank uniformly poorly in all areas. This is the case for Lao PDR and Nepal, in particular.

[21] The Republic of Korea in particular has become a reference or "best practice" in the area of e-trade facilitation, having developed one of the most advanced and successful electronic single window for sharing and processing of trade-relate information and documents. See for example, Yang (2009).

We further extend our earlier gravity model specification to include the BRCI score of the exporting country in order to assess its significance. As shown in Table 4 (model B3 and B6), the addition of BRCI to the model results in a further improvement of the model in terms of its ability to capture variations in bilateral import flows. Coefficients and signs of all variables found to be statistically significant are as expected and generally consistent with those from the model specifications discussed earlier.

The coherence of trade and investment facilitation as measured by BRCI has a significant effect on bilateral trade. The results further suggest that a coherent trade and investment environment is particularly important for the development of intra-regional and South-South exports (model B6). Indeed, a 5% improvement in BRCI results in a 0.7% and 1.5% increase in overall bilateral trade flows and intra-regional and South-South flows, respectively. While trade and business facilitation coherence has, as could be expected, a second-order effect on trade, the effect is positive and significant, suggesting that focusing on coherence would be a way for countries – especially those which have made good progress on trade facilitation – to gain a competitive edge in an increasingly challenging global environment.

Bringing trade and business facilitation in Asian countries to OECD levels: A Simulation

Countries in Asia-Pacific are at very different stages of development and have achieved different levels of performance in the various business regulatory areas considered. While some may find it difficult to further improve – even marginally – in certain areas, others have plenty of room for improvement. To understand this more fully, a counterfactual simulation was developed, in which all Asian developing countries performing below the OECD average in selected trade cost and business facilitation areas are assumed to improve to the average OECD performance level – admittedly a very ambitious performance level, but one that has already been exceeded by a number of middle income countries in East and Southeast Asia.[22]

The change in each trade and business facilitation variable – averaged across all Asian developing countries in the sample – implied by the simulation are reported in Table 5. They suggest that the scope for improvement in BtB business (investment) facilitation in developing Asia is larger than that for improvement of the cost of import and export.

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[22] This type of simulation is reminiscent from those done in Wilson, Mann and Otsuki (2004), and Helble et al. (2007).

Table 5: Impact on Export of Improving Domestic Trade and Business Facilitation in Asian Countries to the OECD Average

Areas of Improvement in exporting country	Implied average change in Asian countries (%)	Impact on bilateral import from exporting country (%)	
		All trade*	Intra regional and south-south trade**
Cost of Export	-13.79	13.5-14.5	11.1-14.0
Credit Markets (Depth of Credit Information)	27.79	14.2-16.2	33.2-35.6
Investment protection (Disclosure)	18.20	2.9-3.2	
Contract Enforcement Procedures (No. of steps)	-18.54	23.2-27.3	up to 31.3
Trade & Business Regulatory Coherence Index	-31.13	3.35	9.40

*calculated using coefficient estimates from model A2 and B3; **and A5 and B6.

The simulation results should be taken as indicative only and interpreted as upper bounds. It is found that simplifying domestic contract enforcement procedures in Asian developing countries to the OECD average may increase export by up to 27%. Similar improvements in credit market information and in the cost of export in Asia increase exports by up to 16% and 14%, respectively. Gains from improvements in business regulatory coherence lead to an additional 3% average increase in bilateral exports, possibly more than those that may be achieved by focusing on disclosure requirements for investment protection alone.

The results further highlight the importance of improving the domestic business regulations in Asian developing countries for intra-regional and south-south trade. Bringing credit information quality and availability in Asian countries to the average OECD level could result in an increase in intra-regional exports of up to 35%, three times more than what may be achieved by reducing BtB and at-the-border costs of export to the OECD level. Interestingly, the intra-regional and south-south trade gains from improving regulatory coherence in Asian countries to the OECD average are similar in magnitude to those that may be achieved by focusing on trade costs – partly because a number of Asian countries already have lower costs of export than most OECD countries, as explained earlier.

Figure 5: Impact of Simulated Improvement in Trade and Investment Facilitation in Selected Asian Countries on their Exports
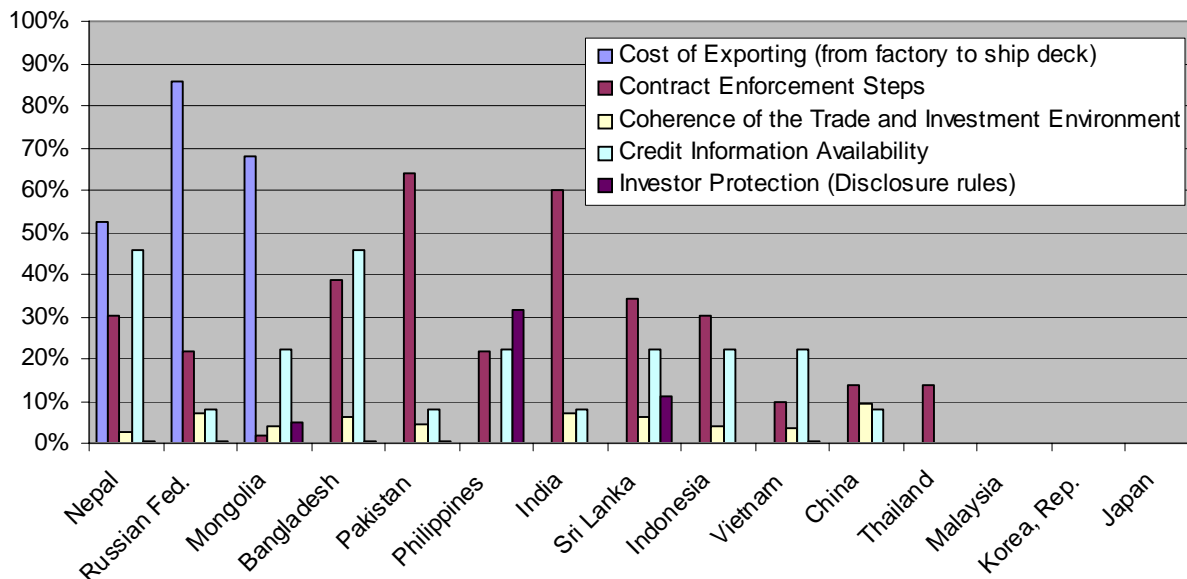
Note: Improvement is simulated to the OECD average.

Average gains across a sample of Asian countries, as done in Table 5, can be misleading. Indeed, since countries have achieved different levels of performance in different areas, potential gains from various trade and business (investment) facilitation areas – and hence the priorities accorded to them – are likely to differ significantly in each country.[23] This is illustrated in Figure 5,[24] which shows that, for example, the Russian Federation may need to focus on reducing its cost of exporting, while Pakistan may instead prioritize streamlining of procedures associated with enforcing contracts.

While Figure 5 shows that the adoption of an integrated approach to trade and investment has a second-order effect relative to taking immediate action on the individual measures examined, it also shows that most Asian countries can expect to become more competitive if they take action in this area.

Conclusions and Policy Implications

The purpose of this paper was to evaluate the potential contribution of both trade and non-trade specific business facilitation measures on trade and export competitiveness, as well as the potential gains from adopting a more integrated and coherent approach to trade and business (investment) facilitation.

The analysis confirms that measures aimed at reducing the behind and at-the-border cost of exporting, such as reductions in customs and port fees and charges, and improvements in transport infrastructure and logistics services can be expected to have a significant impact on trade.
However, it also reveals that improving the domestic business (investment) environment may have an impact on export competitiveness of a magnitude similar to the trade and transport facilitation measures. For example, while a 5% reduction in export cost may be expected to result in a 4% increase in trade, a similar reduction in the number of steps for contract enforcement result in a 6% increase.

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[23] This heterogeneity of results across countries is inherent in the way in which the simulations are conducted, since only those countries whose performance are below the chosen target performance level will make improvements resulting in direct impact on their trade.
[24] Calculated using model B3 (all trade).

This finding has important implications for trade policy makers. Indeed, it suggests that trade officials should actively develop cooperation and communication channels with other ministries and institutions in charge of different types of business regulations – in particular, according to study results, those related to credit information and contract enforcement – as influencing these regulatory bodies may ultimately be as or more effective than pursuing only trade-specific regulatory reforms under their purview. One way to address this issue would be to develop or strengthen regular consultation mechanisms with export-oriented firms, in cooperation with relevant chambers of commerce and industry associations, to identify the behind the border bottlenecks they face, and pass on that information to the relevant regulatory bodies for their action.

In addition, the study found evidence that achieving similar performance levels across the range of trade and business facilitation areas, i.e., having a more integrated approach to trade and business facilitation, could significantly increase trade competitiveness. While the size of this business regulatory coherence dividend is smaller than the gains that may be achieved through either trade or non-trade business regulations, it is significant. The implication of this result is that trade officials should go beyond indirectly influencing or providing information to relevant business regulatory bodies, but advocate for the development or strengthening of a joint public-private trade and business (investment) facilitation committee able to take a systemic and dynamic approach to trade and business regulatory reform, allocating limited resources for reform to where they are needed the most.

In the context of the current global economic crisis (2008-?), characterized in part by reduced availability and increased cost of trade finance, our finding that improvement in the depth of credit information at home has an important and significant effect on export competitiveness is particularly relevant and timely. Indeed, the cost of trade finance is strongly affected by whether or not trade finance and export credit insurance providers have access to reliable and comprehensive information on the creditworthiness of exporters – and ideally, their buyers as well. Our results therefore suggest that the establishment or strengthening of public and private credit bureaus, credit rating agencies as well as the development of mechanism for the sharing of credit information among them and with financial institutions may all be effective measures to alleviate the impact of the crisis on traders and trade finance providers.

Finally, the study finds that a country's capacity to trade is significantly affected by the BtB trade and business environment in the foreign partner country. Contract enforcement procedures, and to a lesser extent, credit information, in the foreign country are specifically identified as important regulatory areas for trade development. This suggests the need and potential effectiveness for bilateral, regional or multilateral approaches to strengthening behind the border regulations.

Limitations of the study and need for further research

While the results presented in the paper are found to be reasonably robust across a number of model specifications and samples, more detailed analysis would be needed to identify and confirm priorities at the national level, including through stakeholder consultations and surveys, seen as an essential basis for policy decision making.

Aside from limitations inherent to the Doing Business dataset,[25] the gravity model is a partial equilibrium model, i.e., it does not take into account economy-wide effects of changes in the factors

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[25] Details of data collection methodology are available at www.doingbusiness.org.

included in the model. As such, it provides insights on the magnitude and relationship between factors of interest (trade and business regulations in this paper) and trade flows, but provides no insights on the net welfare impact associated with regulatory change. While the three business regulatory areas considered in the paper are not particularly controversial and can reasonably be expected to increase both trade competitiveness and national welfare, this may not always be the case for some other business regulations. For example, making labor regulations more flexible may improve business and trade competitiveness, but this may not always increase welfare as some of the labor already employed may lose part of their job security and benefits.

The identification of a regulatory coherence dividend in this study provides support for a more holistic approach to trade and investment policy making. Further work needs to be done to extend the concept developed in this paper to verify the existence of policy coherence dividends from improved coordination and integration in various policy areas, such as the ones included in the OECD Policy Framework for Investment. Such work would provide quantitative evidence of gains associated with the implementation of integrated policy frameworks, the cost of which should not be underestimated given the relatively complex institutional coordination and stakeholder consultation infrastructure that they entail.

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Annex

Annex 1: Ease of Doing Business Ranking of Selected Countries in Asia and the Pacific – Subregional rankings (07/08)

Annex 2: Selected Indicator of Business Regulations: Disclosure Index and Number of Contract Enforcement Procedures in Asia-Pacific.

Annex 1 – Ease of Doing Business Ranking of Selected Countries in Asia and the Pacific – Subregional rankings

(07/08)

Economy	Ease of Doing Business Rank	Trading Across Borders (TAB) Rank	Average Rank, excluding TAB	Starting a Business	Dealing with Construction Permits	Employing Workers	Registering Property	Getting Credit	Protecting Investors	Paying Taxes	Enforcing Contracts	Closing a Business	EDB Variance of Rank
East and Southeast Asian Economies													
Singapore	1 [1]	1 [1]	6	10	2	1	16	5	2	5	14	2	31.07
Hong Kong, China	4 [2]	2 [2]	17	15	20	20	74	2	3	3	1	13	484.01
Thailand	13 [3]	10 [3]	39	44	12	56	5	68	11	82	25	46	740.32
Korea	23 [5]	12 [4]	57	126	23	152	67	12	70	43	8	12	2631.17
Malaysia	20 [4]	29 [5]	50	75	104	48	81	1	4	21	59	54	1149.38
Taiwan, China	61 [7]	30 [6]	85	119	127	159	26	68	70	100	88	11	2317.29
Indonesia	129 [10]	37 [7]	119	171	80	157	107	109	53	116	140	139	1909.66
China	83 [8]	48 [8]	92	151	176	111	30	59	88	132	18	62	2839.61
Philippines	140 [12]	58 [9]	125	155	105	126	97	123	126	129	114	151	772.93
Vietnam	92 [9]	67 [10]	91	108	67	90	37	43	170	140	42	124	2082.84
Timor-Leste	170 [14]	79 [11]	138	150	100	78	177	178	126	75	181	181	2144.28
Cambodia	135 [11]	122 [12]	115	169	147	134	108	68	70	24	136	181	2411.43
Mongolia	58 [6]	156 [13]	63	59	103	71	20	68	24	79	38	108	1745.38
Lao PDR	165 [13]	165 [14]	131	92	110	85	159	145	180	113	111	181	1304.77
Pacific Island Economies													
Tonga	43 [2]	50 [1]	63	19	31	5	113	109	104	31	57	101	1698.22
Marshall Islands	93 [8]	54 [2]	86	25	5	1	177	145	150	88	60	125	4055.56
Kiribati	79 [5]	69 [3]	79	111	76	21	68	131	38	10	75	181	2686.00
Solomon Islands	89 [6]	75 [4]	89	99	35	42	169	145	53	47	108	105	2068.84
Samoa	64 [4]	86 [5]	77	132	47	16	72	123	24	60	79	136	1827.61
Papua New Guinea	95 [9]	89 [6]	93	92	124	31	73	131	38	87	162	102	1618.77
Micronesia	126 [10]	95 [7]	102	60	11	12	177	109	170	81	143	152	3678.22
Fiji	39 [1]	108 [8]	58	87	55	32	40	12	38	71	64	119	1175.60

Economy	Ease of Doing Business Rank	Trading Across Borders (TAB) Rank	Average Rank, excluding TAB	Starting a Business	Dealing with Construction Permits	Employing Workers	Registering Property	Getting Credit	Protecting Investors	Paying Taxes	Enforcing Contracts	Closing a Business	EDB Variance of Rank
Palau	91 [7]	120 [9]	88	83	52	9	17	181	170	86	141	56	3634.94
Vanuatu	60 [3]	136 [10]	68	94	24	86	115	84	70	20	67	50	1358.04
South Asian Economies													
Sri Lanka	102 [3]	66 [1]	102	29	161	110	141	68	70	164	135	43	2464.01
Pakistan	77 [2]	71 [2]	91	77	93	136	97	59	24	124	154	53	1625.29
India	122 [6]	90 [3]	112	121	136	89	105	28	38	169	180	140	2538.93
Bangladesh	110 [4]	105 [4]	107	90	114	132	175	59	18	90	178	106	2349.57
Maldives	69 [1]	121 [5]	73	38	8	4	177	145	70	1	90	123	4030.68
Bhutan	124 [7]	151 [6]	92	63	116	13	38	172	126	82	37	181	3589.88
Nepal	121 [5]	157 [7]	99	73	129	150	28	109	70	107	121	103	1529.12
Afghanistan	162 [8]	179 [8]	124	22	140	30	174	178	181	49	160	181	4562.71

Annex 2- Selected Indicator of Business Regulations: Disclosure Index and Number of Contract Enforcement Procedures in Asia-Pacific.

- **Disclosure Index**

One of the indicators in the "Investment Protection" Category of the Ease of Doing Business database, the information disclosure index measures the extent of disclosure on the following aspects: (a) which corporate body can provide legally sufficient approval for transactions; (b) whether immediate disclosure of transactions to public, shareholders or both is required; (c) whether disclosure in annual report is required; (d) whether disclosure to the board of director is required and; (e) whether external body such as external auditor is required for reviewing transaction. The index is ranging from 0 to 10, with a higher value indicating more information disclosure.
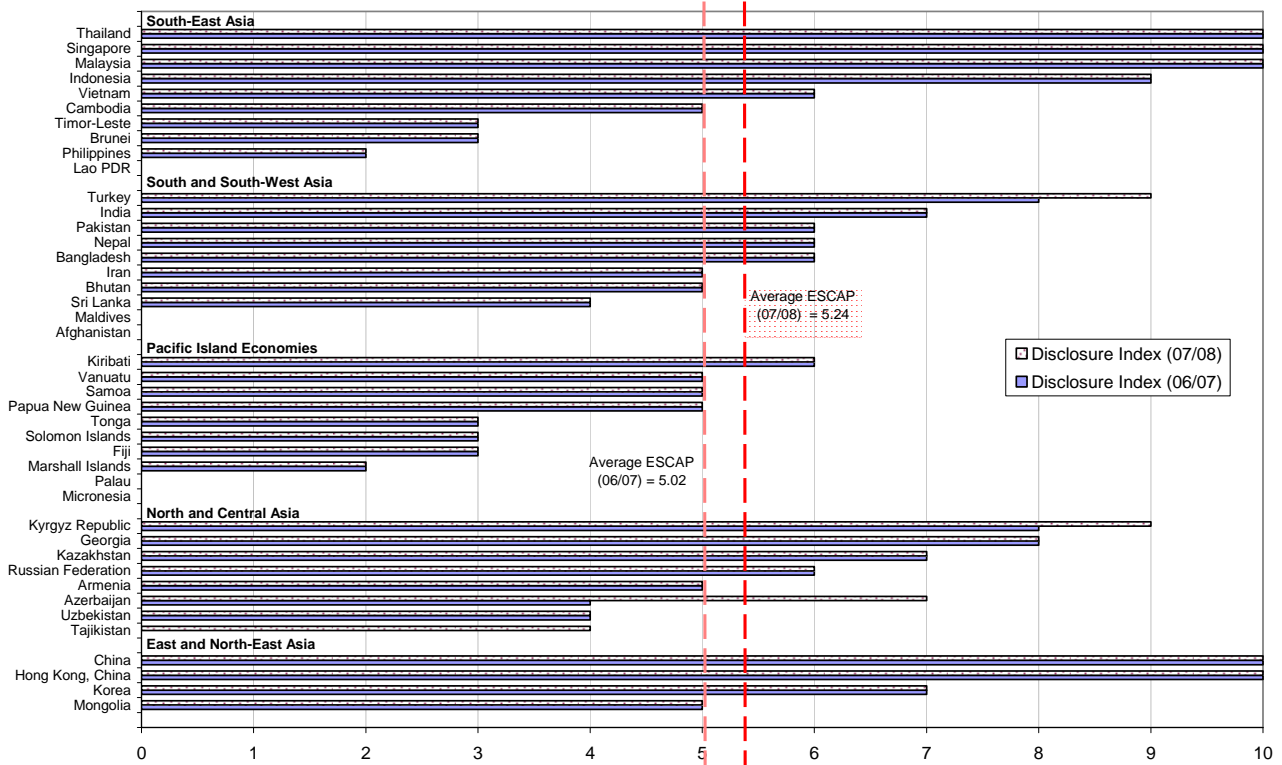
- **Contract Enforcement Procedures**

    One of the indicators in the "Investment Protection" Category of the Ease of Doing Business database, the number of contract enforcement procedures measures the complexity involving the interaction between the parties or between them and the judge or court officer, which are measured in terms of numbers of steps mandated by law or court regulations. The higher value implies more complicated contract enforcement procedures.