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Economic and Social Commission for Asia and the Pacific

RISING NON-TARIFF PROTECTIONISM AND CRISIS RECOVERY

A study by the Asia-Pacific Research and
Training Network on Trade

Edited by
Mia Mikic with Martin Wermelinger



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United Nations publication
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Manufactured in Thailand
ST/ESCAP/2587

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Foreword

The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) has built the Macao Regional Knowledge Hub in Support of Sustainable Trade and Development (MARKHUB) in response to demands by trade policymakers and other relevant stakeholders in the region. MARKHUB's focus was capacity-building in the area of trade policy formulation, monitoring and evaluation through the convening of regional policy consultations. In particular, research and analysis relevant to policy and decision makers in the area of trade and trade-related policies in developing countries of Asia and the Pacific is generated and presented in research workshops. The workshops and consultations were designed as an opportunity for lessons and knowledge sharing, not only among the participants in the Asia and the Pacific, but also with those from other regions and international organizations. The initiative was directly sponsored by the Government of Macao, China while the ESCAP secretariat provided technical, logistic and substantive support and inputs. Several longstanding partner institutions of ESCAP contributed to the implementation of the different phases and aspects of this project, most notably the World Trade Organization, United Nations Conference on Trade and Development and many member institutions of the Asia-Pacific Research and Training Network on Trade with support from the International Development Research Centre, Canada.

The first research workshop under the MARKHUB took place in late 2006 and it produced a document entitled "The Research Agenda that Matters to Developing Country Policymakers." This document identified the following six areas of research that were deemed of the most urgent to deliver further information and inputs for evidence-based policymaking, these areas include:

1. Regional and multilateral trade liberalization
2. Liberalization of services trade and impact of services on economic reform
3. Non-tariff measures and behind-the-border barriers
4. The movement of people
5. Democratization of trade policy design
6. Advances in methodology of trade research

These topics indeed defined the area of research and analysis for the projects. During its course, five research workshops, and more than 10 training workshops and consultations with more than 500 participants were held. Results of research and analysis were made available as on-line training materials, series of working papers and four volumes of collected papers and studies. This is the fourth volume and it is dedicated to the exploration of non-tariff protectionism. It is based on papers that were presented at the Research Workshop on Rising Non-tariff Protectionism and Crisis Recovery, on 14 and 15 December 2009 in Macao, China. The workshop also launched the Third Global Trade Alert Report entitled "The Unrelenting Pressure of Protectionism" which focuses on the Asian and Pacific region.

The papers in this volume, as in the other MARKHUB volumes, include methodological improvements and extensions, conceptual clarifications as well as impact assessments and policy recommendations. Despite being non-exhaustive with respect to this topic and inputs to policymaking, the volume provides useful insights into the ways of coping with the current and emerging trade environment. I hope you will find it an interesting read.

Ravi Ratnayake
Director
Trade and Investment Division

Acknowledgements

This collection of papers is the result of the Research Workshop on Rising Non-tariff Protectionism and Crisis Recovery, which was held on 14-15 December 2009 in Macao, China, under the MARKHUB project. The project was coordinated at the Trade and Investment Division of ESCAP between 2006 and 2010. It delivered, among other activities, five research workshops on various topics relevant for developing countries' trade decision-makers and four volumes (including this one) of studies that were prepared for and discussed at the research workshops. The project was funded by the Government of Macao, China, and benefited from financial and substantive contributions from the Asia-Pacific Research and Training Network on Trade (ARTNeT) and its core partners International Development Research Centre (IDRC), Canada, United Nations Conference on Trade and Development (UNCTAD), United Nations Development Programme (UNDP) Regional Centre in Colombo, and in particular the World Trade Organization (WTO).

The project is implemented by Ms. Mia Mikic in collaboration with other professional staff of the Trade and Investment Division and under the guidance of the Division's Director, Mr. Ravi Ratnayake. Furthermore, a number of dedicated interns who worked with the Trade Policy Section of the Division over the life of the project, assisted in many different ways in the implementation of the project. As this is the last volume of the MARKHUB series under this phase of the project, we would like to express appreciation to the following individuals for their support and inputs during the course of the project: Mr. Sou Tim Peng, Ms. Cristina Morais and Mr. Son Cheong Kong, Macao Economic Services, Macao, China; Mr. Evan Due, IDRC; Mr. Patrick Low, WTO; Mr. Hiroaki Kuwahara, UNCTAD; and Mr. Simon Evenett, St. Gallen University and Global Trade Alert.

Grateful acknowledgement is due to Ms. Deanna Morris for editing this volume of the MARKHUB series. Ms. Tavitra Ruyaphorn and Ms. Panjai Limchupong were instrumental for the implementation of many events that were organized under the project. Ms. Boonrudee Varapukde and Ms. Charuwan Chongsathien provided administrative support and necessary advice.

The most profound gratitude is due to the authors who contributed papers for this volume and contributors to the previous three volumes. Without their hard work and dedication, none of the MARKHUB volumes would have been written. We do not list these authors here, as their details are available in the list of contributors of each individual MARKHUB volume, which can be downloaded freely in the full-text format from the project website <http://www.unescap.org/tid/artnet/markhub/publications.asp>.

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Acronyms and abbreviations

AASROC	Asian-African Sub-regional Organisations Conference
AEC	ASEAN Economic Community
AFTA	ASEAN Free Trade Area
AHTN	ASEAN Harmonized Tariff Nomenclature
AMKRI	Indonesian Rattan Furniture and Craft Producers Association
APEC	Asia-Pacific Economic Cooperation
APTA	Asia-Pacific Trade Agreement
ASEAN	Association of Southeast Asian Nations
ASEAN5	Brunei Darussalam, Indonesia, Malaysia, Singapore and Thailand
ASEC	ASEAN Secretariat
ASMINDO	Indonesian Furniture Industry and Handicraft Association
ATIGA	ASEAN Trade in Goods Agreement
BASIC	Brazil, South Africa, India and China
BPS	Indonesian Central Statistics Agency
CARICOM	Caribbean Community
CDM	Clean Development Mechanism
CEPT	Common Effective Preferential Tariff
CER	Certified Emission Reduction
CGE	Computable General Equilibrium
CGIAR	Consultative Group on International Agricultural Research
CIF	Cost Insurance Freight
CINDES	University of Chile and Centro de Estudos de Integração e Desenvolvimento, Brazil
CLMV	Cambodia, Laos, Myanmar and Viet Nam
COMESA	Common Market for Eastern and Southern Africa
COMTRADE	United Nations Commodity Trade Statistics Database
CRO	Country Reporting Officer
DFID	Department for International Development
ESCAP	Economic and Social Commission for Asia and the Pacific
ETS	Emission Trading System
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDI	foreign direct investment
FOB	free on board
FTA	free trade agreement
GATT	General Agreement on Tariffs and Trade
GATS	General Agreement on Trade in Services
GDP	gross domestic product
GHG	greenhouse gas
GNTB	Group of Eminent Persons on Non Tariff Barriers
GSTP	Global System of Trade Preference
GTA	Global Trade Alert
GTAP	Global Trade Analysis Project
GTIS	Global Trade Information Services
HS	Harmonized System
IAP	individual action plan

ICT	information and communication technology
ILO	International Labour Organization
IMF	International Monetary Fund
ITC	International Trade Centre
LDC	least developed country
M&A	merger and acquisition
MAST	Multi-agency Support Team
MERCOSUR	Southern Common Market
MFN	most favoured nation
NAMA	non-agricultural market access
NIDA	National Institute of Development Administration
NPIK	special import registration number
NTB	non-tariff barrier
NTM	non-tariff measure
NTP	non-tariff protection
OBR	output based rebating
ODA	official development assistance
OECD	Organisation for Economic Cooperation and Development
PECC	Pacific Economic Cooperation Council
PIDS	Philippines Institute of Development Studies
PTA	preferential trade agreement
RTA	regional trade agreement
SACU	Southern African Customs Union
SAFTA	South Asian Free Trade Area
SME	small and medium-sized enterprise
SPS	sanitary and phytosanitary measures
TBT	technical barriers to trade
TCMCS	Trade Control Measures Coding System
TDR	Trade and Development Report
TFAP	Trade Facilitation Action Plan
TPRB	Trade Policy Review Body
TRAINS	Trade Analysis and Information System
TRQ	tariff-rate quota
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
USDA	United States Department of Agriculture
USDA-ERS	USDA Economic Research Service
USITC	United States International Trade Commission
WITS	World Integrated Trade Solution
WTO	World Trade Organization

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Introduction

Rising non-tariff protectionism and crisis recovery

By Mia Mikic

During 2009, the Asian-Pacific economies witnessed the collapse of trade unprecedented in modern economic history. This collapse has been combined with contractions in production and rising unemployment in almost all economies. In their efforts to address these serious challenges, policymakers in many countries opted to use trade restrictions, often but not always, in line with the flexibility left by the multilateral trading rules on the use of contingent measures. The first impression about policy reactions to the crisis has been that many among the trade-related measures, which were enacted, were of a so called non-tariff nature. Because this non-tariff protection lacks precision in terms of definition of instrument, measurability and comparability, among other problems, it is typically deemed to be much more problematic than tariff based protection. In order to bring more clarity on these issues, the ESCAP secretariat has teamed up with WTO and UNCTAD in organizing a research workshop under the title, “Rising non-tariff protectionism and crisis recovery” (14-15 December 2009) as part of the MARKHUB workshop series. Researchers from the region, in particular those associated with ARTNeT, as well as experts from outside the region, were called upon to submit their studies on the non-tariff based protectionism affecting developing and the least developed countries of the region.

The research questions that were posed to prospective participants at the workshop included, inter alia, the following:

- How protectionism is developing in the least developed countries since the on-set of the crisis and what were the most frequent trade restrictions used?
- Is trade-distorting the fiscal stimuli packages and what has been other responses to this crisis?
- Are regional trade agreements (RTAs) effective in taming the non-tariff measures, including the technical, sanitary and phytosanitary standards?
- Is non-tariff protectionism more prevalent in North-South trade than in South-South trade?
- Is a danger of Green protectionism real?
- What is the preference of various stakeholders in developing countries with respect to types of trade restrictions?
- Is harmonization of standards impossible?
- Is there a trade-off between further liberalization in the Doha Development Agenda (DDA) and future increase in non-tariff and behind-the-border protection?

Organizers also teamed up with the Global Trade Alert (GTA) Initiative and its coordinator Simon Evenett in preparation of the third GTA Report to have a particular focus on Asia and the Pacific region. The report (available at www.globaltradealert.org) was launched at the workshop and the content of the Report contributed towards answering some of the above listed questions.

This volume includes nine chapters; some were written specifically for the workshop and this volume, while some resulted from the ongoing research on broader topics.¹ While these chapters do not exhaust all relevant questions on the non-tariff protectionism, they provide a good inroad into the *problematique*. The selected lessons learned from the papers and the workshop are summarized below. So, what have we learned on these selected topics?

A. Definition and classification of measures

The concept of the non-tariff measures (NTMs) and non-tariff barriers (NTBs) has been discussed in the trade literature for many years, but we still have not come closer to having a unanimous decision on definitions. In chapter IX by Basu and Kuwahara the reader is reminded of UNCTAD activities in this thematic area about the search for the common definition, classification and approaches to measurement. Two points are emphasized in the introduction: (1) Not all non-tariff measures restrict trade in a discriminative way, which is to say that not all of them are non-tariff barriers. Why do we then prefer to still address this area or interventions in terms of NTM, rather than policies that are much more similar to the impact of tariffs which are NTBs? Simply because at any moment NTM can be turned into NTB and thus to get a full impression of the possible impact of non-tariff protectionism one has to consider NTM. Basu and Kuwahara define NTMs as policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded or prices, or both. So the practical way out of this acronym and terms conundrum will be to adopt a term such as non-tariff protection (NTP), as done in this workshop. (2) Often there is an argument that the use of NTP has been increasing to make up for the reduction of tariff levels which were targeted through successive multilateral rounds and RTAs. With lower tariff protection, countries still need to have some sort of buffer from the international competition and therefore they opt to apply some form of NTP. This however does not mean that NTP was not known and used in times of high tariffs. In fact, at times when discussions were held to address the high tariffs back in 1945, a document called “Proposals for Expansion of World Trade and Employment” prepared for an International Conference on Trade and Employment, included this paragraph: “A transaction...may be prevented because the tariff of the buyer’s country creates an added costs too great to be borne; or because the paper-work required for export or import is so burdensome that the deal is not worth while; or because the seller cannot get an export licence; or because the buyer cannot acquire the seller’s currency to make a payment, or because importation is restricted by the buyer’s country to a quota which has been exhausted; or because it is forbidden altogether” (Department of State, 1945, p. 2). So clearly NTP was known and used with high tariffs. However it is also true that a variety of instruments and the frequency of their use has grown with tariff cuts, sending mixed signals on the intention to completely liberalize trade, as also noted by Basu and Kuwahara about the “...mismatch between the reduction of tariffs arising from the GATT/WTO multilateral agreements and...preferential trade agreements...on the one hand, and the proliferation of non-tariff measures, on the other”.

¹ The full workshop programme and presentations are available from this website <<http://www.unescap.org/tid/projects/ntp.asp>>

B. Tracking of non-tariff protection and use of such protection in South-South trade

Measuring the level of NTP (in terms of tariff-equivalents) obviously is a problem as it is not clear which measures/policies to count in and, moreover, the choice would differ across countries. Ando and Obashi, in chapter II, illustrate the frequency ratio measure based on the inventory approach for the case of ASEAN. They constructed a common dataset of NTMs across states in ASEAN in an attempt to identify what types of NTMs are implemented, how pervasive they are and which industries receive more protection through such measures. Recognizing the absence of unique classification, the authors follow UNCTAD's classification adopted by Trade Analysis and Information Systems (TRAIS) Trade Control Measures Classification. This allows them to split all NTMs into core and non-core NTMs and interpret the core ones as unambiguous trade barriers, while non-core measures are disguised measures with the potential to distort trade. Only the Lao People's Democratic Republic does not adopt any core-NTMs, while other countries use almost the full arsenal of measures (see table 1 in chapter II). In ASEAN as a whole, almost half of the tariff lines (49 per cent) are subject to some type of the NTMs; Cambodia and Thailand cover the fewest number of lines (6 and 11 per cent, respectively, in 2007). Three countries, Indonesia, Myanmar and the Philippines are found to cover all product lines with one or other type of NTMs. They also found that across ASEAN on average the frequency ratios are higher for the non-core NTMs (32 per cent) than by core NTMs (27 per cent). It seems that some products attract more protection: non-core NTMs, particularly health and sanitary regulations and quality standards are widely applied mainly to the industries of animals, plants and food. Moreover, it seems that these products as well as chemicals and chemical products and machineries receive protection from various NTM simultaneously applied. Ando and Obashi underline how this simultaneous use of multiple forms of NTMs increases overall cost of protection due to higher administrative and time costs of their implementation.

ASEAN's evolution into the ASEAN Economic Community rests on reduction and complete elimination of the use of NTMs among the members which will also facilitate further development of international production and distribution networks which involve ASEAN members. In general, it is expected that the use of disguised protection of NTP type would be less among developing countries (i.e. South-South trade) than in trade between developed and developing countries (i.e. North-South trade). Rajan Ratna in chapter III uses the case of India to investigate if this contention would be true under the challenge of the global economic crisis.

Ratna finds that historically South-South trade shows greater resilience in post crisis episodes. Based on the most recent crisis experience in 2009, the newly industrialized economies of Asia have seen their trade flows rebound more strongly than developed economies, suggesting that much of their recent growth could be due to intra-regional trade. The Republic of Korea's exports to the world grew more slowly in July (22 per cent) than its exports to Asia (26 per cent) or to China (27 per cent). The fact that China's imports grew twice as fast as its exports in July (16 per cent versus 8 per cent) also suggests that intra-Asian trade could be benefiting from the country's fiscal stimulus. In addition, China and India have maintained a high rate of GDP growth, showing the strength of their economies.

Ratna further suggests that the developing countries in the Asia-Pacific region should start looking at the markets of their neighbours, especially China and India for diversifying

their exports. They also ought to pay more attention on how to more effectively utilize the existing and currently negotiated preferential trade agreements (PTAs). The utilization levels of PTA preferences are deemed to be increasing (albeit very slowly) in the Asia-Pacific region, reaching about 25 per cent for members of the Association of Southeast Asian Nations (ASEAN), 35 per cent for the Asia-Pacific Trade Agreement (APTA) and 15 to 20 per cent for the South Asian Free Trade Area (SAFTA). Another issue raised by Ratna is difficulties in removal of NTMs that have been imposed by several developed countries during the crisis. The only way, he suggests, for the developing countries to expand exports is to look at the markets of other developing countries.

Tambunan in chapter IV explores the Indonesian experience during the last global economic crisis and studies state response, especially in the trade area, to the crisis. He finds that it was during the sharp 1997/98 crisis, when Indonesia started to use a non-protectionist strategy to cope with a crisis and to initiate the recovery process. He describes that, before, periods of inward-looking strategies were responsible for wide-spread inefficiencies and a lack of competitiveness in the Indonesian economy. Hence, during the last crisis sustained actions to build macroeconomic resilience, to improve competitiveness and to bolster the sources of domestic economic resilience, have been chosen as the best strategy for Indonesia to cope with the crisis and to speed up the recovery process.

C. Quantification of non-tariff protection

Michael Ferrantino opens chapter VIII with a discussion on the quantification of NTMs and offers 11 points addressing important aspects, methodological and other, of NTM. He mentions, for example, the similarities between NTM and trade facilitation and says that removing NTM is equal to facilitating trade and therefore the economic analysis of NTM should be similar to the analysis of trade facilitation. He argues further that the economic distortion of NTM is potentially very large. This distortion can be measured as a price or a quantity gap, while price gaps are preferable in many applications. Another point is that the analysis of NTMs should aim at linking policy concerns with observed economic effects. He also gives a list of useful data sources for NTM policies as well as trade data and points to the NTM network where analysts can discuss and post existing NTM research.

An important conclusion of Ferrantino's chapter is that the best estimates of NTM effects are crafted with detailed knowledge of products and markets, one product and country at a time. However, policymakers often want to know about many products and countries at once. This then leads to the so-called tradeoff between "handicraft" and "mass-produced" estimates of NTM effects. Another conclusion is that the appropriate price comparisons for NTM analysis require the identification of a point in the supply chain where prices are to be compared. When there are multiple policies present, a single estimated price gap summarizes their effects but does not provide information on the effects of individual policies.

D. Non-tariff protection and trade facilitation

The linkage between trade facilitation and NTP is also tackled in chapter V by Ben Shepherd who undertakes an analysis to clarify the role of trade facilitation in lowering trade costs by decomposing them into tariff and non-tariff components in the cases of APEC and ASEAN. He shows that in both APEC and ASEAN, tariff reductions have played an important role in reducing overall trade costs. Progress on non-tariff trade costs has been much less impressive. This finding raises serious questions as to the effectiveness of trade

facilitation efforts in the Asia-Pacific region, which should be clearly focused on non-tariff trade costs.

E. Non-traditional use of non-tariff protection

From the definitions of NTM described above, services are not mentioned. On one hand, this is not surprising as services in principle are not tangible and do not cross border ‘as such’ (i.e. in the same way goods do) and thus tariffs on them do not apply. By extension then, any measure that is applied in services trade would be of a non-tariff type but also, and more importantly, it would be a “behind-the-border” type or in other words part of the regulatory measures. Thus it is even more difficult to quantify NTP in services. It is not surprising that Martin Molinuevo in chapter VII, who had the task to study services, first explains the nature and dynamics of protection (liberalization) in the trade of services. This discussion is followed by discussing recent instances of protectionism. Molinuevo finds that most of the protectionism motivated by crisis was in the basket of stimulus measures and investment measures. His analysis suggests that a number of economic, legal and institutional factors complement each other to create strong incentives against a general surge of protectionism in the area of services. These elements, indeed, de facto eliminate from the domestic regulatory capacity a number of instruments that would allow governments to protect domestic industries and isolate them from the global economy.

Molinuevo also confirms the general perception that international trade in services remains an area which is less accessible to direct governmental intervention. While in the area of trade in goods, the governments have a number of instruments to affect particular chosen goods at their disposal. When it comes to trade in services, regulatory action for the individual sectors tend to be more costly and less readily available, which acts as a disincentive for the introduction of protectionist measures. National policymakers are better equipped to focus on the development of general legal frameworks, leaving sector-specific matters to be developed by specialized agencies with expertise in the individual sector. In the negotiating context, this translates into a need for trade and foreign ministries to maintain close contacts with specific regulatory agencies.

One area which is often mentioned as offering a “great” potential for use of NTP is trade in environmental goods and services. Swapna Nair in chapter VI investigates various aspects of this “angst” of environmental protection. She identifies three sets of policies which could be used to assist with mitigation of climate change without harming trade but admits that, such policies would work best under a multilateral agreement on climate change mitigation rather than under a maze of disconnected unilateral policies. Reaching a multilateral agreement on environment is undoubtedly difficult because it has to take into account the interests and requirements of a varied set of countries at different levels of development. Further, the debate is rooted in the political economy since it is not just the current but the past (and justly so since climate change is a cumulative process) which is being considered to determine actions required. The failure to reach a multilateral agreement would lead to a world of non-cooperative unilateral actions which might not only be ineffective in dealing with the problem of climate change but might also lead to a situation of conflict and mistrust between economies. A multilateral agreement might be difficult but it cannot be impossible if the right set of incentives and the right spirit of engagement is there.

F. Is non-tariff protection more used than other forms of protection when times are bad?

Evenett and Wermelinger in chapter I use the Global Trade Alert database to provide a snapshot of current protectionist dynamics. This chapter confirms the contemporary importance of “murky” protectionism. The overview of the crisis-era protectionist landscape showed that in each quarter of the past 18 months more than half of discriminatory measures are not tariffs or trade defense measures, but tend to fall under weaker or no WTO rules. The harm inflicted by and the discrimination against the Asia-Pacific region, is quite similar to global tendencies; although tariff-related measures are slightly more prevalent in this region. Evenett and Wermelinger provide an estimate about the harm done to China, which is the target of the greatest number of foreign discriminatory measures: at least 10 per cent of its exports are harmed and more than 50 per cent of those exports are affected by “murky” forms of protectionism, notably, local content requirements and bailouts.

The authors derive two important implications for policymaking based on their analysis. Given the cumulative damage done to the world economy from crisis-era protectionism, if the world economy continues to recover, the national policymakers should not only resist any temptations for future protectionism but also start to unwind those discriminatory measures in place. Both national ministries and international organizations, such as WTO, could identify the most harmful crisis-era interventions and start talks on how such measures can be withdrawn. In addition, WTO and other international organizations should assist small and poor countries to obtain, when possible, exemptions of discrimination from their trading partners. Secondly, and more applicable to the mid and longer run, government leaders should rethink the role of WTO in the light of contemporary experience. If a consensus emerges that current multilateral trade rules were not strong enough to resist from protectionist temptations during the global economic crisis, then policymakers may wish to initiate negotiations on new rules on subsidies, public procurement, export taxes and incentives, and the other measures used frequently in recent years. Such negotiations would go well beyond the Doha Round mandate and it is an open question as to whether that mandate – if unmodified – best serves the interests of the world trading system.

G. A way forward

Discussions in the workshop and papers presented in this volume confirm once again that despite popularity of non-tariff protection among the policymakers, this area is under-researched, in terms of quality and quantity of data as well as the assessment of impacts. The old areas where NTP has been used to limit trade are now being enriched by new instruments (mostly belonging to “behind-the-border” groups) and also targeting new linkages of trade such as climate change, environmental protection, labour standards, or protection of the public in a variety of areas (health, public morals, etc.).

Signs that the crisis has weakened or passed are getting stronger and rather soon countries will have to completely abandon bail-out programmes. In many cases, this will also mean that they will have to give up the use of NTP that was adopted during the crisis. Therefore this will be a good test to see how difficult or easy it is to wean producers and services providers off such protection.

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Chapter I

A snapshot of contemporary protectionism: how important are the murkier forms of trade discrimination?

By Simon J. Evenett and Martin Wermelinger

Introduction

Policymakers and academics around the globe have been concerned about the threat of rising protectionism during the recent Global Financial Crisis and its aftermath. The G20 Heads of States and Governments pledged to eschew protectionism in earlier summit meetings, at latter meetings they pledged to fight protectionism. In the Declaration of the summit in Toronto in June 2010, G20 leaders praised themselves for having chosen “to keep markets open to the opportunities that trade and investment offer.” Also, they renewed the pledge “to refrain from raising barriers or imposing new barriers to investment or trade in goods and services” (G20, 2010). On the face of it, these statements are supported by the joint report of WTO, OECD and UNCTAD, dated 14 June 2010, which served as background information for the G20 talks in Toronto (WTO-OECD-UNCTAD, 2010). In particular, WTO estimated that new “import restricting measures” introduced since November 2009, covered only 0.4 percent of total world imports (WTO, 2010).

In contrast to this optimistic perspective, certain trade experts warned early in the crisis that this time around, in contrast to the Great Depression in the 1930s, protectionism is likely to be “murky” (Baldwin and Evenett, 2009). Murky protectionism needs not involve a direct violation of WTO obligation, but represents an abuse of the legitimate discretion given to the State to discriminate against foreign goods, companies, workers and investors. Examples include clauses in stimulus packages that confine spending to domestic producers (“buy local” provisions); “green” policies that subsidize the manufacturing of environmental friendly goods but again only for local producers (Evenett and Whalley, 2009; Aggarwal and Evenett, 2010); or the bailout packages for selected domestic firms in tradeable sectors, which effectively alter the conditions of competition and international commerce. Interestingly, the WTO-OECD-UNCTAD report also admits that such policy measures may be more significant in terms of their potential impact on trade, investment and competition, than the traditional trade and investment restrictions (WTO-OECD-UNCTAD, 2010). However, that report makes no attempt to compare the magnitude of trade affected by murkier forms of protection with the easier-to-measure tariffs and trade defense instruments.

The latest results from the Global Trade Alert (GTA), an independent monitoring initiative providing information of state measures (including “murky” measures) that are likely to affect foreign commerce, show little let up in the number of discriminatory measures being implemented since the G20 summit in September 2009 (Evenett, 2010). Worldwide, Governments have imposed 357 state measures that discriminate against foreign commercial interests since the Pittsburgh summit. Moreover Evenett and Fritz (2010) used a conservative methodology to identify 16 (out of the 554) state measures from the GTA database that are likely to adversely affect both a large number of trading partners and a sizeable amount of international trade. The total estimate of trade covered by these “jumbo” measures is at least 10 per cent of the total value of world imports in 2008.

One might ask why the conclusions of WTO and GTA are so different. Does the omission of the “murkier” forms of state discrimination against foreign commercial interests in the WTO calculations have a downward bias in their estimates of the trade affected by contemporary protectionism? Ultimately, is the issue what forms of state discrimination legitimately fall within the purview of any monitoring exercise? Section A provides a comparison of the methods used by WTO and GTA for their estimates of trade coverage of crisis-era protectionism. Section B gives a snapshot of the current level of protectionism and the protectionism that is in the pipeline. In particular, it identifies which forms of discrimination are the most prevalent forms of crisis-era protectionism.

The remainder of the paper focuses on the Asian and Pacific region and assesses whether contemporary protectionism in this region is similar to general tendencies (section C). In section D special focus is given to China, which is found by GTA to be the most frequently hurt jurisdiction by other nations' protectionist measures. Estimates are provided for the amount of Chinese exports affected by certain foreign crisis-era measures; the first time the impact on an Asian-Pacific nation's total exports has been calculated. Section E concludes and discusses the implications for policymaking.

This paper extensively uses the GTA database, which at the time of writing (July 2010) consisted of 1,052 investigations of state measures that had been announced or implemented since November 2008. The publicly available dataset goes beyond its competitors in terms of coverage of countries, policy instruments, and other information such as the identification of trading partners likely to be harmed by a specific measure. Details about the construction of this dataset can be found in Evenett (2009).

A. Comparison of WTO and GTA² estimates for trade coverage of crisis-era protectionism

It is a challenge to provide a precise estimate of the total value of world trade covered by protectionist measures implemented during the global economic downturn and thereafter. Still, recent reports by WTO and GTA have attempted to shed light on this matter. The WTO report takes into consideration only those import restricting measures implemented during the previous six months and estimates that 0.44 per cent of world trade is affected by protectionism.³ The WTO report notes that strictly speaking, this estimate may be too high, because WTO uses HS 6-digit data to make its calculations, when in fact the measures are targeted at the 8-digit level (WTO, 2010, p. 16). In contrast, researchers associated with GTA have estimated that \$US 1.6 trillion of world trade, equivalent to more than 10 per cent of world imports in 2010, provides a minimum level of the trade affected by crisis-era protectionism. The authors in question contend their estimate is "conservative," one reason being that it is based on 16 out of the 554 implemented and discriminatory measures in the GTA database.⁴

² In this section, the GTA estimate corresponds to the calculations of Evenett and Fritz (2010), who are both members of the GTA team.

³ This is the estimate for import-restricting measures implemented since November 2009. If measures between October 2008 and October 2009 are added, the comparable estimate of world trade affected is 1.41 per cent.

⁴ See Evenett and Fritz (2010) for more details.

Why are the reported coverage ratios so different? Firstly, the WTO estimate includes only standard trade policy instruments, principally trade defense measures. The most often used of these measures are designed so that they can target, not just specific nations that export a good, but certain exporting firms without those nations. While safeguard measures affect imports of a good from all foreign sources, unless the goods and importers in question are significant in size, the magnitude of trade affected will almost certainly pale in comparison with the totals from world trade. It is therefore not surprising that the total amount of trade affected by trade defense measures, in a given six month period, is small.⁵ Similar findings are already well established in the literature on antidumping, for example⁶. Short of an explosion of trade defense measures being introduced, computing the total amount of trade affected by such interventions is tantamount to trawling for minnows. To continue the metaphor, the real question is whether there are any bigger fish in the (protectionist) sea?

The scope of regional trade negotiations, the Doha Round and the specifics of bilateral trade disputes since the 1980s shows that, for the better part of the last three decades, trade diplomats, trade ministers and trade analysts have recognized that states can discriminate against foreign commercial interests in many ways. The chapters of any recent regional trade agreement signed by the United States, or for that matter any industrialized country, indicates that discrimination is possible far beyond the application of tariffs and trade measures. So as to provide a complete picture of the contemporary realities of protectionism, GTA is prepared to include any state measure that alters the treatment of foreign commercial interests relative to domestic rivals.⁷

Rather than restricting the analysis to traditional instruments, GTA used objective criteria to identify so-called “jumbo discriminatory measures”, which are likely to affect a large number of trading partners and a sizeable amount of trade (more than \$US 10 billion). The 16 “jumbo” measures that were used for the estimate include bailouts, export subsidies and competitive devaluations among other less traditional beggar-thy-neighbor policies. Together, these measures concern half of the estimated \$US 1.6 trillion of trade value covered. The other half is harmed by more traditional policies, in particular export restrictions and tariff measures.

GTA’s use of a lower level of disaggregation to identify the affected tariff lines compared with WTO (HS 4-digits versus HS 6-digits) is a second aspect that may contribute to the different results. Surely it is more precise and therefore preferable to look at specific

⁵ This statement is almost certainly the case irrespective of any undercounting by the WTO secretariat. Potential undercounting cannot be ruled out in the measures listed in the WTO reports, not least because the WTO secretariat is in many cases reliant on its member Governments to honestly report in short order the measures taken against foreign commercial interests. Overcounting is unlikely in the WTO reports because the same member Governments would quickly point out any errors made. The bias is on reporting less protectionism than has actually occurred, a point readers should bear in mind when interpreting the press statements and speeches that accompany the publication of WTO reports.

⁶ More interesting is that the use (rather than the amount) of such measures may have changed during the crisis. See Bown (2010) and Fritz and Wermelinger (2009) for details.

⁷ The use of the word “alters” is deliberate in this last sentence. Therefore, the GTA database also records liberalizing measures that eliminate or narrow discrimination against foreign commercial interests.

products rather than using the broad HS 4-digit category,⁸ which will overestimate the trade coverage since they will include some products not actually affected by a measure. It is important to remember that many of the non-tariff measures are implemented by levels of Government that do not identify the products affected using the standard HS classification. Any attempt at classification at the 8-digit level could (given the broad definitions of the product and the scope of many discriminatory policies) be arbitrary and undercount the amount of trade affected. For trade policy instruments where higher levels of disaggregation are publicly reported, going beyond the 4-digit level, may yield more precise estimates. But readers should be under no illusion that such information is available for all of the murkier, less transparent forms of protectionism.

Even though the right choice of disaggregation matters, along with other steps in the proper calculation of trade affected,⁹ the biggest difference between the two sets of estimates almost surely rests on the choice of policy instruments included. It may be the case that the historical resort to import-reducing measures in the 1930s provides a rationale for considering the impact of those measures now. However, it is difficult to see how that argument justifies ignoring other relevant discriminatory policy instruments. In short, if the forms of protectionism have evolved over time, so should trade policy monitoring exercises and the associated trade coverage calculations. For sure, measurement may not be perfect but rough orders of magnitude are probably what is needed for policymaking. Still, reports should specify what steps were taken in making calculations,¹⁰ so that others can replicate their methodologies.¹¹

B. Snapshot of contemporary resort to protectionism

The purpose of this section is to provide an overview of protectionist measures that have been announced or implemented after the first crisis-related G20 summit in November 2008. The prevalence of “behind-the-border” non-tariff measures that potentially affect foreign commercial interests – not just imports – is highlighted.

1. Protectionism remains an issue of concern¹²

Given that the G20 leaders repeatedly pledged to eschew protectionism, the opportunity is taken here to assess what happened between the G20 summits in September 2009 and June 2010. Worldwide, Governments have implemented 357 state measures that discriminate against foreign commercial interests, almost trebling the amount of observed discrimination (to 554 measures). Measures that harm commercial interests of its trading partners outnumber beneficial measures four to one, although it should be remembered that each measure may differ in scope and impact. The G20 Governments are responsible for over 60 per cent of all the discriminatory measures implemented worldwide. It should also be

⁸ Some sense of perspective is needed here. Even at the 4-digit level there are over 1200 different types of product. Readers are encouraged to look over the 4-digit HS classification to see how fine grained it actually is.

⁹ The computational steps in Evenett and Fritz (2010) almost certainly result in underestimates of the total amount of trade affected, for reasons given therein.

¹⁰ To its credit, the most recent WTO report was transparent in this respect.

¹¹ To that end, Evenett and Fritz (2010) have made the relevant data and spreadsheets associated with their trade coverage calculations available to those who have asked for them.

¹² Some of the results presented in this sub-section are also published in Evenett (2010).

noted that 80 per cent of the trade liberalizing measures implemented during the last eight months were introduced by G20 Governments.

These discriminatory measures hurt others. In fact, as shown in table 1, many of the G20 members have suffered a substantial number of hits on their commercial interests. For example, China has suffered 282 hits to its commercial interests abroad (an increase of nearly 100 since the G20 in September 2009). The question arises, why do Governments (in particular large and powerful ones) continue to accept this damage to their commercial interests, especially when there is a lot of variation across countries in the harm that is inflicted.

Another puzzling factor in the limited dissension among large nations is the recognition that some countries inflict harm far more often than others. Four indicators of the harm done by a nation's discriminatory policies are reported and the top 10 worst offenders on each metric are listed in table 2. From the Asian and Pacific region, China, India, Indonesia, Kazakhstan and the Russian Federation recur on the list (see section C of this paper for a closer look at this region). The EU27 refers to the combined impact of all the actions taken by the European Commission and the 27 member States. Together, the EU27 appear as the top five worst offenders on all four metrics, a dubious distinction. However, most of the harm done by the EU27 grouping results from measures taken by the EU member States and not by the European Commission.

Table 1. Since the Pittsburgh G-20 summit many countries have seen their commercial interests under attack

Top 10 targets	Number of discriminatory measures imposed on target		Number of pending measures, which if implemented, would harm target	
	Toronto G20 summit	Increase from previous G-meeting	Toronto G20 summit	Increase from previous G20 meeting
China	282	183	125	48
EU27	266	na	80	na
United States	213	127	46	27
Germany	204	20	56	26
France	188	110	46	22
United Kingdom	181	109	44	24
Italy	175	105	50	27
Belgium	70	92	42	21
Japan	168	90	47	24
Netherlands	163	92	42	24

Notes: This table is also published in Evenett (2010).

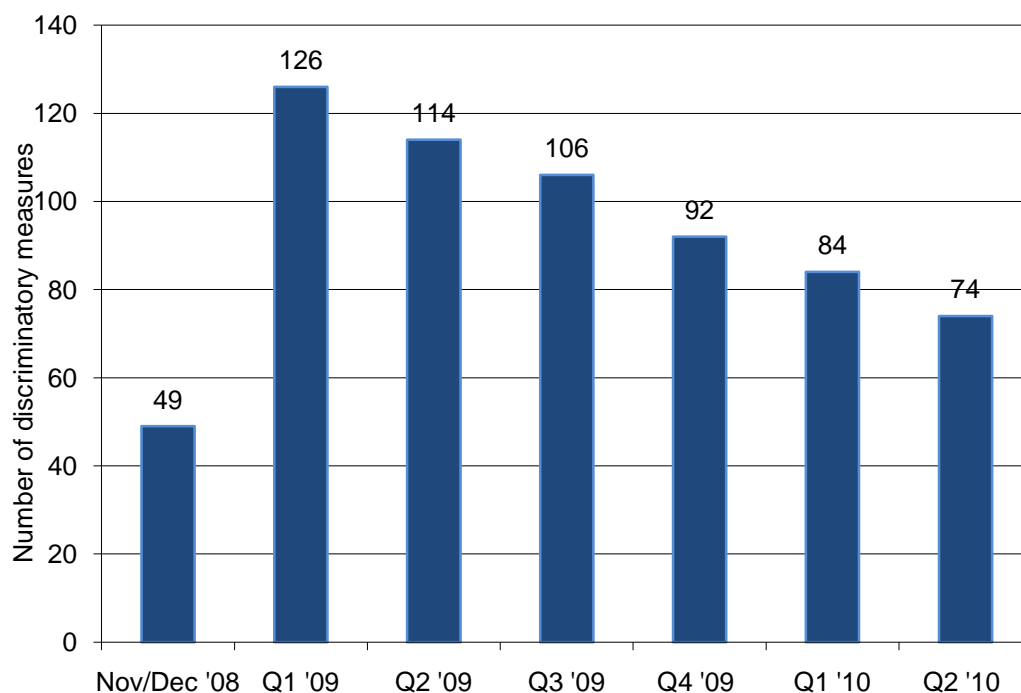
Table 2. Some jurisdictions inflict more harm than others

Rank	Metric, country is specified rank, number			
	Ranked by number of (almost certainly) discriminatory measures imposed	Ranked by the number of tariff lines (product categories) affected by (almost certainly) discriminatory measures	Ranked by the number of sectors affected by (almost certainly) discriminatory measures	Ranked by the number of trading partners affected by (almost certainly) discriminatory measures
1	EU27 (146)	Venezuela (784)	EU27 (55)	EU27 (168)
2	Russian Fed. (73)	Kazakhstan (719)	Algeria (54)	Argentina (161)
3	Argentina (41)	Nigeria (5999)	Nigeria (45)	China (161)
4	India (31)	EU27 (437)	Venezuela (38)	Indonesia (152)
5	Germany (29)	Russian Fed. (421)	Kazakhstan (36)	Russian Fed. (142)
6	United Kingdom (24)	India, Indonesia (347)	Russian Fed. (34)	Finland, Germany, South Africa (132)
7	Indonesia (22)		Ethiopia (32)	
8	China, Italy (19)	Ethiopia (345)	Indonesia (32)	Belgium, Brazil (131)
9		Argentina (336)	India (31)	
10	Austria (17)	China (335)	Germany (27)	

Notes: This table is also published in Evenett (2010). The EU27 refers to the combined impact of all the actions taken by the European Commission and the 27 member States.

It is also important to check whether the protectionist momentum has abated as the world economy appears to recover. Figure 1 plots the number of harmful measures implemented per quarter since November 2008. At first cut this plot shows a slowdown in use of discriminatory state actions. However, as Evenett (2010) argues, many interventions become apparent several (sometimes up to 12) months after the actual implementation. Therefore, the decline over time reflects reporting challenges rather than improved government behaviour. Comparisons across the GTA reports over time has shown that in most quarters the totals quickly converge to a range of 100-125 protectionist measures implemented per quarter. No departure from this pattern has been observed, suggesting that the recovery has yet to resort to protectionism. Moreover, much of the discrimination put in place has yet to be removed, while more than 200 measures have been announced and may be implemented in the months ahead. Therefore, as far as open markets are concerned, the current situation does not afford much room for complacency.

Figure 1. Less harmful state actions are recorded in each quarter, but this is an artifact of reporting lags



Source: Global Trade Alert database, accessed in July 2010.

2. Non-tariff measures (behind-the-border) are the most prevalent

The introduction of this paper alluded to the importance of less transparent protectionist measures – the so-called murky protectionism – during the recent global economic crisis. In introducing this subject, it is necessary to set to one side certain unpersuasive arguments for not reporting certain discriminatory measures against foreign commercial interests. For instance, it is well known that the deep financial crisis induced caused many Governments to bail-out troubled banks and other financial intermediaries. Far too many policymakers and trade diplomats have appeared to argue that the systemic nature of the threat to the financial system trumps all other considerations.

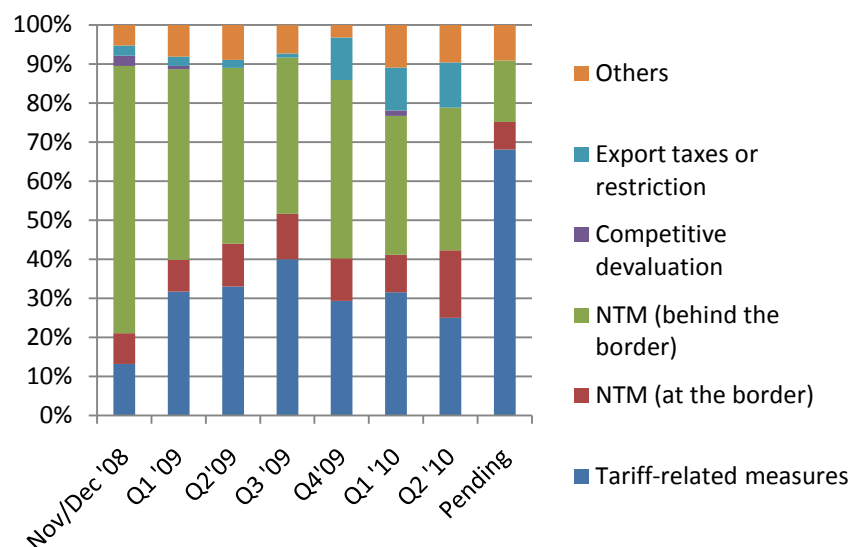
Here it is important to distinguish between two features of such bail-outs: their apparent systemic importance and any discriminatory nature. This distinction is important because it begs the question of whether it was necessary to introduce discriminatory bail-outs to preserve the financial system. It may be possible – indeed arguably it is preferable – to introduce bailouts that helped preserve the stability of the financial system which do not discriminate against foreign commercial interests. If so, a country can be faithful to its commitments to trading partners and still be able to tackle financial crises. Furthermore, to the best of our knowledge, there is no accepted proposition that discrimination is a prerequisite for effectiveness (assessed at the national or global level.) It is quite probable that, had a greater set of alternatives been contemplated, less discriminatory or non-discriminatory financial support packages that were equally effective could have been identified.

When one examines the evidence, however, what is astonishing is that a lot of the reported crisis-era state aids were not provided to the financial sector, but to other industries in trouble where the "systemic threat" argument hardly applied. For example, 60 per cent of

all bailout/state aid measures, implemented between November 2008 and June 2009, which were recorded in the Global Trade Alert database, were provided to non-financial sectors. Moreover, one would expect the “bailout season” to be over, given the apparent recovery from the crisis. However, no signs of such a slowdown can be found in the data; these measures remain the most often used discriminatory policy tool, followed by trade defense actions.

Figure 2 draws the quarter-by-quarter picture for different groups of measure types. The share of behind-the-border measures,¹³ which tend to be less tightly regulated by the WTO accords, remains around 40 per cent – a proportion that is fairly constant since the beginning of 2009. By contrast, the share of traditional tariff-related measures, in particular trade defense measures, actually falls from a 40 per cent peak in the third quarter of 2009 to 25 per cent in the second quarter of 2010. Including other forms of discrimination, such as migration and investment measures or export restrictions, the prevalence of non-tariff interventions becomes all the more apparent in the set of implemented stated measures. Having said this, tariff and trade defense measures still dominate the measures that have been announced but not yet implemented.¹⁴

Figure 2. How has contemporary protectionism changed quarter-by-quarter?



Source: Global Trade Alert database, accessed in July 2010.

Notes: *Tariff-related measures* include tariff and trade defense measures. *NTM at the border* include quotas, import bans, TBT, non tariff barriers (not otherwise specified). *NTM behind-the-border* include consumption subsidies, local content requirements, public procurement, bailout/state aid measures, export subsidies, trade finance support, support to state trading enterprises and state-controlled companies. *Others* include investment, migration, intellectual property protection and other service sector measures.

¹³ Including consumption subsidies, local content requirements, public procurement measures, bailout/state aid measures, export subsidies and trade finance support.

¹⁴ To save space, the sectoral analysis of government intervention is not presented here. Aggarwal and Evenett (2010) provide some evidence and hypotheses as to how the sectoral incidence and form of state action have changed during the global economic crisis.

C. Is protectionism in Asia and the Pacific region at par with global tendencies?

This section explores whether discrimination against and harm inflicted by emerging or developing countries in Asia and the Pacific are similar to the protectionist tendencies at the global level.¹⁵

1. Harm done to the Asia-Pacific commercial interests

China is the only jurisdiction in Asia and the Pacific region on the list of jurisdictions whose foreign commercial interests are harmed the most (see table 1 above). The second most affected in this region, the Republic of Korea, has been hit almost half the amount of times as China has. Table 3 lists the top 10 harmed Asia-Pacific countries.

Table 3. The Asia-Pacific countries are not among the most targeted, except China

Top 10 targets	Number of discriminatory measures imposed on target	Trading partners imposing largest number of discriminatory measures on target			Type of measure imposed most frequently on target		
		No 1	No 2	No 3	No 1	No 2	No 3
China	282	Russian Fed. (47)	Argentina (33)	India (22)	Trade defence measure (94)	Tariff measure (69)	Bail out / state aid (61)
Republic of Korea	149	Russian Fed. (36)	India, Argentina (11)		Bail out / state aid (51)	Tariff measure (39)	Export tax or restriction, Trade defence measure (18)
Thailand	141	Russian Fed. (27)	Indonesia (15)	Argentina (12)	Bail out / state aid (42)	Tariff measure (38)	Export subsidy, Export tax or restriction, NTB, Trade defense measure (15)
Turkey	137	Russian Fed. (36)	Argentina (9)	France (8)	Bail out / state aid (47)	Tariff measure (40)	Export tax or restriction (19)
India	131	Russian Fed. (20)	Argentina (14)	Indonesia (10)	Bail out / state aid (38)	Tariff measure (38)	NTB (19)
Singapore	109	Russian Fed. (18)	Indonesia (15)	Argentina (11)	Bail out / state aid (28)	Tariff measure (34)	Export tax or restriction (20)
Australia	107	Russian Fed. (15)	Indonesia (14)	Argentina, France, Japan, United Kingdom (7)	Bail out / state aid (38)	Tariff measure (26)	Export subsidy (14)
Malaysia	101	Indonesia (14)	Russian Fed., Argentina (10)	France, India (6)	Bail out / state aid (29)	Tariff measure (27)	Export tax or restriction (14)
Indonesia	94	Russian Fed. (12)	Argentina (10)	India (9)	Bail out / state aid (24)	Tariff measure (27)	Trade defence measure (14)
Russian Federation	93	Argentina (10)	China (8)	Kazakhstan (7)	Bail out / state aid (21)	Tariff measure (25)	Export tax or restriction (14)

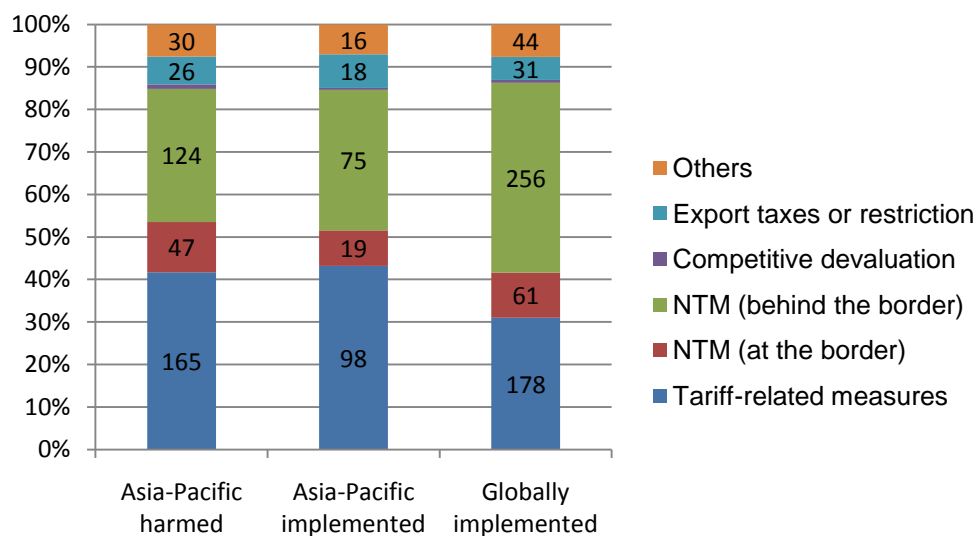
Source: Global Trade Alert database, accessed in July 2010.

¹⁵ A more in depth analysis of the protectionist landscape in Asia and the Pacific region is provided in Mikic (2009).

2. Some of the worst offenders can be found in the Asia-Pacific region

Study of table 3 reveals that many of the countries responsible for many of the measures harming Asia and the Pacific region are from within the region. The Russian Federation and Indonesia, in particular, are featured prominently. At the global scale, the Russian Federation and Indonesia along with India, China and Kazakhstan, also belong to the world's leading protectionist players (see table 2 above). Taken together these countries are also responsible for 15 of the 22 “jumbo discriminatory measures”.¹⁶ It is also interesting that there is symmetry between the measures inflicting harm on the Asia-Pacific region and the ones imposed by the region (see figure 3). The comparison with the global distribution shows that tariff increases and trade defense measures are more prevalent in the Asia-Pacific region. By contrast, behind-the-border measures make up a smaller (but still considerable) share in the Asia-Pacific region.

Figure 3. Compared with the world average, the Asia-Pacific region resorts to Tariff-related measures more often



Source: Global Trade Alert database, accessed in July 2010.

Notes: *Tariff-relates measures* include tariff and trade defense measures. *NTM at the border* include quotas, import bans, TBT, non tariff barriers (not otherwise specified). *NTM behind-the-border* include consumption subsidies, local content requirements, public procurement, bailout/state aid measures, export subsidies, trade finance support, support to state trading enterprises and state-controlled companies. *Others* include investment, migration, intellectual property protection and other service sector measures.

3. Harm to the least developed countries

Is the treatment of the least developed countries (LDCs) different? As mentioned by Mikic (2009), the international community has declared repeatedly that LDCs in the world should be assisted in their efforts to integrate into the global economy. Traditionally, they

¹⁶ Identified by Evenett and Fritz (2010). It has to be noted that 22 jumbo measures were identified, but only 16 of them were used for the estimate of total trade coverage (see section A).

have access to special and differential treatment through the multilateral trading rules. In addition, they have been given special focus in the Millennium Development Goals through the adoption of Goal 8, which is focused on developing global partnerships. The Asia-Pacific region is host of 14 out of 49 LDCs. Despite the considerations above, these countries have been the target of discriminatory interventions during the crisis-era; while none of them so far has implemented any measure (see table 4). Trading partners that have imposed most of these measures are India, whose interventions have harmed seven LDCs at least twice. Likewise, Indonesia's measures have harmed eight LDCs. Most of the measures that are thought likely to have harmed poor countries are export restrictions and bailouts. Given their vulnerabilities, more detailed analysis of the amount of harm done to LDCs is warranted.

Table 4. Least developed countries are not spared from protectionist dynamics

Asia-Pacific least developed countries	Number of discriminatory measures imposed on target	Trading partners imposing largest number of discriminatory measures on target			Type of measure imposed most frequently on target		
		No 1	No 2	No 3	No 1	No 2	No 3
Bangladesh	37	India (8)	Argentina (5)	Indonesia (3)	Bail out / state aid measure (12)	Export tax or restriction (10)	Migration (6)
Afghanistan	18	India (4)	Argentina, Russian Fed. (2)		Export tax or restriction (6)	Bail out / state aid measure, Export subsidy (5)	
Cambodia	15	India (4)	Argentina, Indonesia (2)		Export tax or restriction (5)	Bail out / state aid measure, Export subsidy (4)	
Myanmar	15	Indonesia (4)	India (3)	China, Rep. of Korea (2)	Export tax or restriction (6)	Tariff measure (5)	Export subsidy, NTB (3)
Nepal	15	India (4)	China, Germany, Indonesia, Malaysia, Thailand, United States (1)		Export taxes or restriction (4)	Bail out / state aid measure, Export subsidy, Local content requirement, Migration measure, NTB, Public procurement, Trade finance (1)	
Lao People's Democratic Republic	7	Argentina, Belgium, China, Germany, Indonesia, Malaysia, South Africa, Thailand, United States (1)			Export tax or restriction (4)	Bail out / state aid measure (3)	Tariff measure (2)
Samoa	5	Indonesia (2)	Belarus, Nigeria, Rep. of Korea, Russian Fed. (1)		Bail out / state aid measure (2)	Export tax or restriction (2)	Import subsidy (1)
Maldives	4	India (2)	Indonesia, Japan (1)		Export subsidy, Trade finance (2)	Export tax or restriction, NTB (1)	
Solomon Islands	3	Indonesia, Japan, South Africa (1)			Bail out / state aid measure, NTB, Tariff measure (1)		
Vanuatu	3	Belgium, China, Japan (1)			Bail out / state aid measure, Export tax or restriction, Import subsidy (1)		
Timor-Leste	3	Indonesia (3)			Export tax or restriction (2)	Tariff measure (1)	
Bhutan	2	India (2)			NTB, Tariff measure (1)		
Kiribati	1	Japan (1)			NTB (1)		
Tuvalu	0						

Source: Global Trade Alert database, accessed in July 2010.

D. How is China's trade affected by contemporary protectionism?

Mention has already been made that China's commercial interests have been hit the most often by foreign discriminatory measures.¹⁷ Out of the 1,052 measures investigated by GTA, 533 measures affect Chinese exports. More than half of these, namely 282, are “almost certainly” discriminatory against China's commercial interests; another 126 measures are announced or under consideration and would (if implemented) involve discrimination. Only 75 (out of 533) measures against China are benign or beneficial to its commercial interests. This section investigates how much of China's exports and imports are affected by foreign discriminatory measures and whether it is also the less-transparent forms of intervention that affect more of China's trade.¹⁸

1. A conservative method to identify measures that affect China's trade

The first step is to identify the foreign measures that harm Chinese trade. What follows is a conservative methodology that almost surely underestimates the set of relevant measures. The first step amounts to identifying those foreign measures in the GTA database meeting the following conditions:¹⁹

- a) The measure is classified “red” in the Global Trade Alert dataset; that is, the measure “almost certainly” discriminates against foreign commercial interests and has been implemented.
- b) The measure is still implemented in June 2010 (when the computations for this paper were undertaken).
- c) In 2008 the measure would have covered more than a *de minimus* amount of goods trade with China (taken to be \$US 1 million).
- d) The measure is not a subsidy or bailout to the financial sector, and not an investment, migration or service sector measure.
- e) If the measure is a subsidy or bailout to a non-financial sector (including trade finance support), then the total value of the outlay by the implementing Government was at least \$US 1 billion; or (in case the value of the total outlay is not available) in 2008 the measure would have covered at least \$US 10 billion in international trade.
- f) If the measure is a subsidy or bailout to a non-financial sector (including trade finance support), then in 2008 the implementing jurisdiction's average share of world exports in the product lines affected exceeded 5 per cent.

The above criteria make sure that measures included in the subsequent calculations have almost certainly affected Chinese trade above *de minimus* levels. Specifically, the

¹⁷ Applying different metrics (such as number of discriminatory measures affecting specific trading partner, number of pending measures likely to affect trading partner, or number of jurisdictions imposing discriminatory measures against trading partner) China is always the top offended nation.

¹⁸ A similar investigation is done for the case of Switzerland in Wermelinger (2010). Notice that the focus here on exports and imports reveals nothing about the harm done by foreign protectionism to Chinese migrants and foreign investments. For this reason, and others, the value of Chinese commercial interests affected by foreign protectionism will be larger than the numbers reported in this section.

¹⁹ For stated reasons in section A, the methodology applied here is motivated by Evenett and Fritz (2010).

requirements (e) and (f), which concern measures that affect China's exporting interests through their influence of world prices of the products in question, restricts attention to measures likely to have affected world prices.

The above procedure identified 164 (out of the 282) state measures. Next, account is taken of the fact that different types of measure are likely to affect different types of Chinese imports and exports. Specifically, it is assumed (consistent with the GTA's methodology in identifying affected trading partners and tariff lines) that:

- a) China's *exports* of a particular product are *directly* affected (i.e. China's exports to the implementing jurisdiction in the tariff lines concerned) by foreign tariff increases, trade defense measures, quotas, import bans, technical barriers to trade, non-tariff barriers (not otherwise specified), consumption subsidies, local content requirements, public procurement and competitive devaluations affecting the same product.
- b) China's *exports* of a particular product are *indirectly* affected (i.e. China's exports to the world in the tariff lines concerned) by foreign bailout/state aid measures (to non-financial sectors) and export subsidies affecting the same product.
- c) China's *imports* of a product are affected (i.e. China's imports from the implementing jurisdiction in the tariff lines concerned) by foreign export taxes or restriction and competitive devaluations affecting the same product.

2. A significant amount of Chinese trade is affected by foreign measures; behind-the-border measures account for most of trade covered

Not surprisingly, the amount of trade harmed by the large number of measures that discriminate against China's commercial interests is substantial. Table 5 shows that almost 10 per cent of total Chinese exports are covered, and that most of the harm is done by interventions that affect China's exports directly. Two points of interpretation should be made: first, the bigger estimate (for directly affected exports) is also more precise, as the measures involved indeed directly hinder the concerned exports. Second, the smaller estimate (for indirectly affected exports) is calculated with the conservative methodology described above. Table 6 shows that the three biggest measures²⁰ in terms of potentially affected Chinese exports (that meet all but one of the above criteria) are excluded in the estimate. The implementing jurisdiction's share of world exports in the product lines affected by these measures is below 5 per cent and is less likely to distort world prices of these products. This approach is rather restrictive and a marginally more liberal method would increase the share of export coverage dramatically. The situation is less of a concern for imports. China's trading partners harm \$US 45 billion or 4 per cent of total Chinese imports with export restrictions and competitive devaluation measures.

The analysis confirms that the most often harmed jurisdiction in the GTA database is also considerably affected in terms of trade covered by the measures. It would be interesting to study how the number of measures that harm a jurisdiction (or the total trade of this jurisdiction) correlates with the share of total trade affected by these measures. If the

²⁰ Incidentally, all classified as "jumbo" by Evenett and Fritz (2010).

correlations are different from zero, it would show that traders are not symmetrically harmed in terms of trade coverage.²¹

It is also interesting to know which foreign jurisdictions' measures adversely affect the China's trade the most. Four different indicators of harm inflicted by China's partners are calculated; three of which take account of trade coverage. Table 7 reports the 10 worst offenders against China's bilateral (direct) exports on each metric. Indonesia, the Russian Federation, and the United States appear in the top 3 worst offenders for two of the indicators, respectively. All of them are also identified as big global offenders with respect to "jumbo" measures implemented.²²

Additional analysis of the China evidence also confirms previous findings. Although tariff increases and trade defense measures are most frequently measures to harm China's commercial interests (namely, 90 measures, amounting to more than half of all those measures used to calculate the conservative estimate), it is the less-transparent "behind-the-border" measures that affect greater total amounts of Chinese trade. Table 8 presents a detailed list for the number of measures and share of trade values affected by each measure type; only 12 per cent of the trade covered by foreign protectionist measures are associated with tariff increases and the application of trade defense measures. Figure 4 illustrates the same information at a less disaggregated level.

Table 5. How much of China's trade is affected by discriminatory measures?

Trade value (in 2008, US\$ bn) of potentially affected Chinese exports			Share of potentially affected exports in total Chinese exports			Trade value (in 2008 US\$ bn) of potentially affected Chinese imports	Share of potentially affected imports in total Chinese imports
directly	indirectly	total	directly	indirectly	total	total	total
124.39	18.12	142.51	8.69%	1.27%	9.96%	45.00	3.98%

Source: Authors' calculations based on Global Trade Alert and UN Comtrade.

²¹ This exercise goes beyond the purpose of this paper, but some anecdotal evidence for the existence of symmetric export coverage is available; the export coverage for Switzerland is around 10 per cent; similar to the China case. It has however to be noted that the 10 per cent are mainly driven by the broad export tax rebate the Chinese Government granted in 2009 (Wermelinger, 2010). This measure alone (indirectly) affects 9 percent of total Swiss exports.

²² It should be noted that China itself has implemented the "jumbo" measure covering most trade worldwide.

Table 6. List of discriminatory measures that indirectly affected Chinese exports

Implementing jurisdiction	Title of the measure	Measure type	Number of product lines affected	Percentage of total number of product lines exported by China	Implementing jurisdiction's share of world exports in the product lines affected	Chinese share of world exports in the product lines affected	Trade value (in 2008, US\$ bn) of potentially affected Chinese exports	Share of potentially affected exports in total Chinese exports	Jumbo measure?	Included in conservative estimate of trade coverage?
Argentina	Extension of tax exemptions for locally produced capital goods	Bail out / state aid measure	192	16.96%	0.18%	12.92%	690.17	48.24%	yes	no
Brazil	New credit line for exports of consumer goods	Trade finance	196	17.31%	1.21%	16.65%	636.68	44.50%	yes	no
United Kingdom	UK: Temporary aid for the production of green products	Bail out / state aid measure	119	10.51%	3.66%	8.09%	211.57	14.79%	yes	no
France	Financial support to customers of Airbus.	Consumption subsidy, Export subsidy	50	4.42%	11.97%	2.03%	8.65	0.60%	no	yes
	France: Immediate EUR 1.65 billion rescue package for French farmers	Bail out / state aid measure								
United States	Support for General Motors and Chrysler.	Bail out / state aid measure	3	0.27%	8.41%	1.02%	7.79	0.54%	no	yes
Germany	Organic Farming - R&D&I scheme	Bail out / state aid measure	1	0.09%	22.15%	1.87%	1.06	0.07%	no	yes
European Union	Measures to "stabilise" markets for certain dairy products	Export subsidy	9	0.80%	64.69%	0.86%	0.62	0.04%	no	yes
	Reintroduction of export refunds for milk and milk products, butter and butteroil									

Source: Authors' calculations based on Global Trade Alert and UN Comtrade.

Table 7. Ranking of trading partners in terms of direct harm to their bilateral exports to China, 4 different metrics

Ranking	Share of affected exports as % of China's exports to the world in the targeted 4-digit product lines	Share of affected exports as % of China's total exports to that implementing jurisdiction	Trade value (in 2008, billion USD) of affected exports	Number of product lines affected
1	19.63%	100.00%	82.41	212
	Japan	Ethiopia	United States	Indonesia
2	17.16%	100.00%	11.76	166
	Rep. of Korea	Kazakhstan	Indonesia	Russian Federation
3	16.13%	100.00%	7.04	139
	USA	Nigeria	Russian Federation	Nigeria
4	12.24%	100.00%	5.64	106
	European Union	Venezuela	Japan	Ethiopia
5	4.02%	68.40%	3.55	107
	Mongolia	Indonesia	European Union	United States
6	3.35%	32.59%	3.18	93
	Viet Nam	USA	India	Kazakhstan
7	2.71%	29.20%	1.48	83
	Canada	Argentina	Argentina	Argentina
8	2.37%	21.27%	1.29	71
	Customs Union (RBK)	Russian Federation	Iran	Japan
9	1.90%	10.05%	1.12	66
	Russian Federation	India	Ethiopia	Venezuela
10	1.81%	8.41%	1.11	38
	Thailand	Paraguay	Viet Nam	Islamic Rep. of Iran

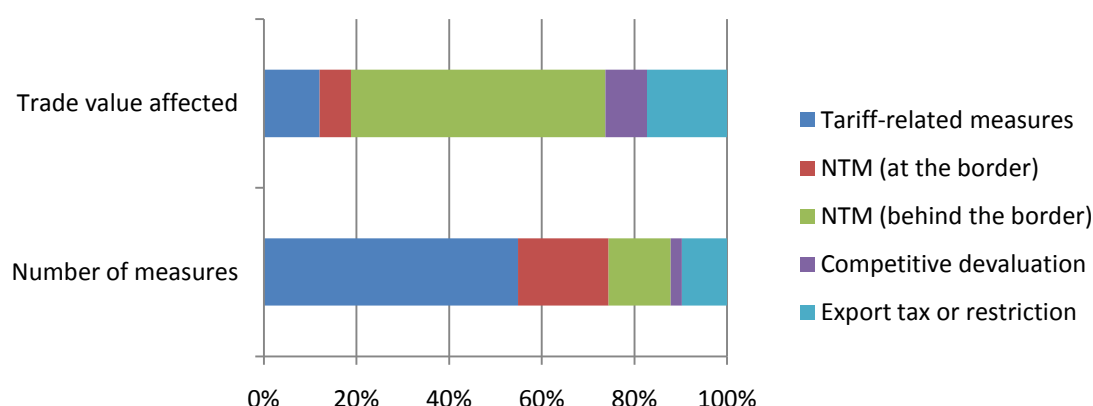
Source: Authors' calculations based on Global Trade Alert and UN Comtrade.

Table 8. Chinese trade covered, by discriminatory measure

Measure category	Tariff-related measures		Non-tariff measures									Competitive devaluation	Export taxes or restriction	
			at the border				behind the border							
Measure type	Tariff measures	Trade defence measure (AD, CVD, safeguard)	Quota (including tariff rate quotas)	Import ban	Technical Barrier to Trade	Non tariff barrier (not otherwise specified)	Consumption subsidy	Local content requirement	Public procurement	Bail out / state aid measure	Export subsidy			
Number of measures	39	51	3	13	3	13	4	5	6	4	3	4	16	
Trade flow affected	Exports											Imports		
Share of trade value affected	6.35%	5.64%	0.28%	1.02%	0.12%	5.37%	0.25%	42.27%	1.80%	5.95%	4.66%	2.46%	6.55%	17.27%

Source: Authors' calculations based on Global Trade Alert and UN Comtrade.

Notes: The figures concern only the measures used for the calculations below; in particular only 164 of the 282 discriminatory measures are used.

Figure 4. Share of different types of measures that affect China's trade, weighted by trade covered

Source: Authors' calculations based on Global Trade Alert and UNComtrade.

Notes: *Tariff-relates measures* include tariff and trade defense measures. *NTM at the border* include quotas, import bans, TBT, non tariff barriers (not otherwise specified). *NTM behind-the-border* include consumption subsidies, local content requirements, public procurement, bailout/state aid measures, export subsidies, trade finance support, support to state trading enterprises and state-controlled companies. *Others* include investment, migration, intellectual property protection and other service sector measures.

E. Conclusions and implications for policymaking

Making extensive use of the GTA database, the purpose of this paper was to provide a snapshot of current protectionist dynamics. Two methods of estimating the trade covered by crisis-era protectionism were also examined. Although the method used in the recent WTO report may use a more appropriate level of tariff line disaggregation for some discriminatory measures, overall, it was argued that GTA's estimates provide a better estimate of the amount of global commerce affected by global era protectionism.

This paper also confirmed the contemporary importance of “murky” protectionism. The overview of the crisis-era protectionist landscape showed that in each quarter of the past 18 months more than half of discriminatory measures are not tariffs or trade defense measures and tend to fall under weaker or no WTO rules. The harm inflicted by and the discrimination against the Asia-Pacific region is rather similar to global tendencies; although tariff-related measures are slightly more prevalent in this region. For the jurisdiction harmed by the greatest number of foreign discriminatory measures, China, it is shown that at least 10 per cent of its exports are harmed and more than 50 per cent of which are affected by “murky” forms of protectionism, notably, local content requirements and bailouts.

In interpreting the performance of WTO rules, the evidence presented raises further questions. Some heart might be taken from the fact that Governments have not chosen to raise tariffs above bound rates. However, the widespread resort to subsidies and bail outs raises concerns that WTO rules were circumvented (or at least, loopholes and weaknesses exploited) rather than strictly adhered to. This matter will require further attention, with the proper specification of counterfactuals in frameworks that allow for the substitution between discriminatory policy instruments.

At a minimum, two implications for policymaking are presented. Given the cumulative damage done to the world economy from crisis-era protectionism, if the world economy continues to recover, the national policymakers should not only resist any temptations for future protectionism but also start to unwind those discriminatory measures in place. Both national ministries and international organizations, such as WTO, could identify the most harmful crisis-era interventions and start talks on how such measures can be withdrawn. The list of “jumbo” measures identified by Evenett and Fritz (2010) and those affecting Chinese commerce, identified here, could be a starting point for such discussions. In addition, WTO and other international organizations should assist small and poor countries to obtain, where possible, exemptions from discrimination of their trading partners.

In the middle to longer run, Government leaders should rethink the role of WTO in the light of contemporary experience. If a consensus emerges that current multilateral trade rules were not strong enough to resist protectionist temptations during the global economic crisis, then policymakers may wish to initiate negotiations on new rules on subsidies, public procurement, export taxes and incentives, and the other measures used frequently in recent years. Such negotiations would go well beyond the Doha Round mandate and it is an open question as to whether that mandate – if unmodified – best serves the interests of the world trading system.

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Chapter II

The pervasiveness of non-tariff measures in ASEAN – evidences from the inventory approach²³

By Mitsuyo Ando²⁴ and Ayako Obashi

Introduction

It is widely recognized that non-tariff measures (NTMs) are more economically harmful to the world trading system and individual countries than tariffs (Bosworth, 1999). While tariffs have been reduced through multilateral trade negotiations, NTMs have emerged as alternative measures to protect domestic industries, particularly in the 1970s and 1980s in response to the drastic tariff reductions in developed countries. Tariff reduction/elimination would become no doubt worthless if alternative trade impeding measures prevent trade liberalization and deteriorate social welfare.

As tariffs basically take the form of ad valorem duties, which is said to indicate the degree of protection, it is relatively easy to negotiate their reduction. On the other hand, NTMs should include any measures other than tariffs that distort international trade or raise the welfare cost, regardless of whether they are border or internal types of measures. Even government policies with legitimacy under multilateral trading rules could doubtlessly become disguised trade restrictions if they are intentionally implemented to protect domestic industries. Moreover, the degree of protection induced by NTMs cannot be easily captured; for instance, the degree of price increase is ambiguous in most cases, at least at a glance. Such diversity and the non-transparent nature of NTMs make it very difficult to monitor and control them, and at the same time, attract governments and industries seeking the protection of domestic producers.

In the case of developing countries including the Association of Southeast Asian Nations (ASEAN) member States, the existence of NTMs *per se* has not been sufficiently recognized. Various non-tariff barriers (NTBs) to trade, however, seem to exist; they may include a few trade-distorting measures such as impediments due to arbitrary interpretation or ad hoc implementation of regulations without explicit rules and those, as a result, of insufficient administrative ability.

This paper attempts to investigate the incidence of NTMs in ASEAN by industries as well as by types of NTMs, employing one of the inventory approaches, the frequency ratio measure. More specifically, the paper attempts to identify which types of NTMs are implemented, how pervasively they are applied, and which industries are more widely protected than others. The diversity and non-transparent nature of NTMs do cause inevitable

²³ The authors would like to thank participants in the Asia-Pacific Trade Economists' Conference "Trade-led Growth in Times of Crisis" Celebrating the 5th Anniversary of ARTNeT held on 2-3 November 2009 in Bangkok for helpful comments.

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difficulties in identifying them and assessing their effects as discussed above. It is, however, essential to capture their pervasiveness for a better understanding of the current incidence of broadly defined NTMs as well as for a promotion of trade liberalization and facilitation in the region. Trade liberalization and facilitation is particularly important for ASEAN countries to further develop international production/distribution networks that have been rapidly formed in East Asia, including ASEAN, since the 1990s.

The rest of the paper is organized as follows: the next section discusses the range and data of NTMs and lists measures actually implemented in each ASEAN country. Using the data explained in section A, section B examines the pervasiveness of NTMs in ASEAN. Section C in turn briefly introduces ASEAN's efforts to establish the ASEAN Economic Community (AEC), focusing on issues on NTMs, trade and investment facilitation, followed by conclusion in section D.

A. The range and data of NTMs

1. Definition

Despite increasing concerns on NTM issues becoming a serious impediment to international trade, there is no consensus on a definition of the explicit range of NTMs. NTMs are composed of whichever measures other than tariffs that distort international trade, regardless of whether they are border or internal types of measures. As mentioned in the previous section, even government policies, the implementation of which is legitimate under multilateral trading rules or can be justified with certain rational reasons, could become disguised trade restrictions when they are intentionally implemented to impede trade or protect domestic industries.

There is no unique classification, reflecting their diversity and non-transparent nature; classifications of NTMs include those developed by the United Nations Conference on Trade and Development (UNCTAD) and several scholars (e.g. Baldwin, 1970; Deardorff and Stern, 1998) as well as in the GATT/WTO agreement and bilateral/regional agreements.²⁵ The range of NTMs also varies among them: while the UNCTAD classification focuses only on import-distorting measures, the classifications proposed by the above scholars cover not only import-related measures, but also export-related measures and domestic policies that may result in distorting international trade.²⁶

2. Classification

Given the nature of NTMs as well as data deficiency, how to measure the incidence of by-type NTMs depends on how to identify their range and how to classify them into the corresponding types of measures. The classification of NTMs in this paper is based on the UNCTAD Trade Analysis and Information System (TRAINS) Trade Control Measures Classification because some ASEAN countries report information on NTMs to the ASEAN

²⁵ See Ando (2005) for a comparison of the coverage of NTMs among different classifications and multilateral/bilateral/regional trade agreements, and a frequency-ratio-based analysis of the pervasiveness of NTMs in APEC member countries.

²⁶ Given the nature of NTMs, their range would further expand if a government implements any new measure aimed at protecting domestic industries from foreign competition (see Bosworth, 1999; and PECC, 2000).

Secretariat according to the UNCTAD classification code number. UNCTAD classifies trade control measures into eight categories: tariff measures; para-tariff measures; price control measures; finance control measures; automatic licensing measures; quantity control measures; monopolistic measures; and technical measures.²⁷ All measures except tariff measures are, by definition, NTMs. Out of seven categories, according to the UNCTAD classification, price control measures, finance control measures, and quantity control measures are defined as core NTMs, and the remainder are as non-core NTMs.²⁸ While core NTMs can be unambiguously identified as trade barriers, non-core NTMs are potentially import-distorting measures in the sense that a government can implement them to intentionally and indirectly protect domestic industries.

Table 1 reports the types of NTMs actually implemented by each ASEAN country, based on the database to be explained in section A.3. As none of the ASEAN countries reported the application of price control measures, this paper examines the pervasiveness of six types of NTMs in the table. Among them, quantity control measures and technical measures are further classified into more detailed sub-categories according to the characteristics of measures. In particular, technical measures are divided into two sub-categories, namely, technical regulations and pre-shipment inspection, and the former sub-category is classified into more disaggregated groups according to the purpose/reason as well as the type.²⁹ Consequently, the set of NTMs is composed of five broad categories and 14 different types of NTMs at the most disaggregated classification in this paper (see Appendix A for the detailed methodology of classification).³⁰

3. Data description

ASEAN countries report a list of tariff lines subject to NTMs to the ASEAN Secretariat, according to the ASEAN Harmonized Tariff Nomenclature (AHTN) codes that 10 ASEAN member countries have adopted in principle since 2004.³¹ For the analysis, we construct the NTM dataset as follows: first, we categorize the list of NTMs that varies across countries into our common classification. Then, we convert the data of the tariff lines subject to NTMs based on our common classification into those at the Harmonized System (HS) six-digit level, which is the internationally comparable and most disaggregated level. It is to be

²⁷ For a description of measures as well as a list of measures classified into each category, see the website of UNCTAD, <http://www.unctad.org/Templates/Page.asp?intItemID=2188&lang=1>.

²⁸ Unlike the UNCTAD classification, OECD (1997) defines price control measures and quantity control measures as core NTMs.

²⁹ Since the availability of the detailed information on purposes/reasons and/or the type of technical regulations is different across countries, table 1 reports NTMs at the disaggregated level only when such information is available. In addition, table 1 identifies “inspection and quarantine requirements for sanitary reasons” as both “testing, inspection and quarantine requirements” and “health and sanitary regulations and quality standards”.

³⁰ Strictly speaking, we have 6 broad categories with 15 different types of NTMs. Financial measures, however, are implemented only by Myanmar, which does not report information on tariff lines subject to these measures, are basically omitted from our analyses in the next section.

³¹ The data on NTMs are available from the website of ASEAN, <http://www.aseansec.org/16355.htm>.

noted that information on NTMs are reported at several digit levels of commodity classification (two, four, six, or eight digit levels), depending on the products.³²

The most recent data available from the ASEAN Secretariat are those for 2007 according to the HS 2002 classification; exceptions are Singapore with data for 2006 and Myanmar with the HS 1996 classification.³³ There exist 5,224 tariff lines at the six-digit level of the HS 2002 classification, and our interest is to uncover how many of them are subject to NTMs by industries and by types of NTMs.

Note that the above-described information submitted by ASEAN countries to the ASEAN Secretariat is on the voluntary notification basis. In other words, NTMs listed in table 1 do not necessarily capture all the existing measures. While some countries provide information on NTMs with detailed description of their procedures and purposes/reasons, others may not fully recognize them as NTMs, may not sufficiently capture the actual implementation, or may not be willing to report them; for instance, when the number of reported NTMs is extremely limited such as the cases for Cambodia, Lao People's Democratic Republic and Myanmar, only a little information on the implemented NTMs does not necessarily indicate that the degree of trade protection is actually low.³⁴ This kind of analysis, however, is indispensable as the first step to uncover the existing NTMs.

As for the industry classification, 97 industries at the HS two-digit level are aggregated into 21 industries, and for some analysis, they are further aggregated into six industries as shown in the next section (see Appendix B for a more detailed description). The aggregated six industries consist of animals, plants and foods (HS1-24), chemicals and chemical products (HS28-40), light manufactured goods (HS41-71), metals and metal products (HS72-83), machineries (HS84-92) and other products (HS25-27; HS93-97).

³² The AHTN is an eight-digit-commodity classification, based on the six-digit level of the HS classification. This paper employs the HS classification since versions of AHTN seem to be inconsistent among 10 ASEAN countries.

³³ The data in the HS 1996 classification for Myanmar are converted into those in the HS 2002 classification.

³⁴ In general, developing countries at the earlier stage of development are more likely to employ tariffs rather than NTMs as a tool for protecting domestic industries. As will be introduced in section C, tariffs for Cambodia and the Lao People's Democratic Republic are higher than other ASEAN countries. Tariffs for Myanmar are not so high, but the country implements trade distorting measures that severely prevent trade as discussed later.

Table 1. The list of NTMs implemented by ASEAN countries

Type of NTMs	NTMs in each category according to the UNCTAD classification	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Para-tariff measures	Additional charges; Internal taxes and charges levied on imports			○				○	○		○
Finance control measures	Multiple exchange rates						○				
Automatic licensing measures	Automatic license	○	○	○		○			○	○	○
Quantity control measures	Non-automatic licensing; Prior to authorisation for sensitive product	○	○	○		○	○	○	○	○	
	Quotas; Quotas linked with export performance; Quotas for sensitive product categories	○		○		○	○	○		○	○
	Prohibitions; Total Prohibition; Prohibition for sensitive product categories	○	○	○		○		○	○	○	○
	Enterprise-specific restrictions									○	
Monopolistic measures	Single channel for imports			○		○		○			○
Technical measures	Marking requirements; Labeling requirements; Packaging requirements	○		○					○	○	○
	Testing, inspection and quarantine requirements	○		○		○	○	○	○	○	
	Technical regulation By purpose / reason			○	○	○	○	○	○	○	
				○	○	○	○		○	○	○
		○	○	○	○	○	○		○	○	○
		○		○		○		○		○	
		○		○	○						○
	Pre-shipment inspection	○		○				○	○	○	

Source: Prepared by the authors, based on the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Notes: (1) The types of NTMs for broad categories are based on the UNCTAD classification; price control measures are omitted as none of ASEAN countries reports the implementation. (2) Core NTMs are highlighted.

B. The incidence of NTMs

This section analyses the pervasiveness of NTMs in ASEAN countries to identify what sorts of NTMs are implemented, how pervasively they are applied, and which industries are more widely protected than others. The section first introduces the methodology and then discusses the current incidence of NTMs in ASEAN by type, industry and country.

1. Methodology

To assess the pervasiveness of NTMs, this paper employs the frequency ratio measure, which is one of the inventory approaches, following previous studies in the literature.³⁵ Frequency ratio F_{ji} for type j of NTM in industry i is calculated as follows:

$$F_{ji} \text{ (per cent)} = T_{ji} / T_i \cdot 100,$$

where T_{ji} and T_i are the number of tariff lines subject to type j of NTM in industry i and the total number of tariff lines in industry i , respectively. Note that the ratio simply reflects the pervasiveness of NTMs, regardless of whether and how much commodities are actually imported, and does not suggest their impacts on prices, trade or welfare.³⁶ Moreover, the degree of import-distorting effects and protection effects, which would vary across measures, cannot be taken into consideration. This inventory approach, however, is one of the most useful and effective methods to capture the pervasiveness of NTMs.

2. By-type features

Table 2 presents frequency ratios, based on the HS six-digit classification, of by-type NTMs for each ASEAN country as well as ASEAN as a whole, and those by six industries for ASEAN as a whole. The table also shows the ratios for core NTMs and non-core NTMs. The frequency ratio of 100 per cent in the table indicates that a country applies the corresponding measure to all products (tariff lines). On the other hand, missing data (which is represented as “.”) in the table, indicates that a country does not report (implement) the corresponding measure as an NTM.

The frequency ratios reported in table 2 provide three interesting insights.³⁷ First, almost half of the tariff lines (49 per cent) are, on average, subject to some type of NTMs, including potentially disguised trade restrictions, suggesting that various direct and indirect trade barriers do exist in ASEAN. Although the ratios for individual countries vary from 6 per cent for Cambodia to 100 per cent for Indonesia, Myanmar and the Philippines, where at least one

³⁵ See, for example, Laird and Yeats (1990), OECD (1997), PECC (2000) and Ando (2005). As an alternative approach, some studies such as OECD (2003) exploit business surveys and examine which types of NTMs are more serious impediments to the exporter than others.

³⁶ To consider whether and how much concerned commodities are imported, some studies employ import-weighted frequency measures (e.g. Bacchetta and Bora, 2001). Since we cannot easily identify whether imports are zero or negligible due to low demand or serious trade restrictions induced by NTMs, we may underestimate the incidence of NTMs in the latter case when import-weighted measures are employed.

³⁷ Strictly speaking, the data does not allow rigorous comparison across countries because of the nature of original data. It is, however, valuable to some extent to sum up the information for all ASEAN countries in order to capture the features of the incidence of NTMs in the region.

type of NTMs is applied to all products, NTMs unambiguously restrict imports of a wide range of products in ASEAN countries.

Second, frequency ratios are, on average, higher for non-core NTMs (32 per cent) than for core NTMs (27 per cent). Compared with explicit trade barriers, disguised trade restrictions, including impediments due to arbitrary interpretation of regulations without explicit rules and those as a result of insufficient administrative ability, seem to be more pervasively utilized in ASEAN. Regarding core NTMs, non-automatic licensing and prohibitions, in particular, tend to be applied to a considerable portion of products, except Myanmar where non-automatic licensing and quotas are implemented for all products. As for non-core NTMs, technical regulations such as safety/industrial standards and automatic licensing measures are likely to be more widely utilized than others, except cases of para-tariff measures applied to all products in Indonesia and the Philippines and monopolistic measures to all products in the Philippines.

Table 2. The pervasiveness of NTMs in ASEAN: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non- core NTMs	Para -tar. meas.	Auto. lic. meas.	Quant. contr. meas.			Mono. Tech. meas.			Tech. reg.							PSI	
						Lic.	Quota	Proh.	Ent.- sp.				MLP	TIQ	SI	HS	SPS	Oths.		
ASEAN10, all industries	49	27	32	20	6	27	20	12	8	0	10	13	11	1	2	4	4	2	0	3
All industries: by country																				
Brunei	46	29	32	..	24	29	18	13	2	..	..	9	9	1	2	..	4	5	..	6
Cambodia	6	4	4	..	0	4	4	..	1	..	..	3	3	..	..	..	3	..	..	..
Indonesia	100	45	100	100	15	45	28	7	34	..	1	30	14	5	10	1	8	8	..	21
Laos	20	..	20	..	..	..	..	..	..	..	..	20	20	..	..	11	5	..	4	..
Malaysia	43	36	21	..	1	36	34	0	3	..	0	20	20	..	3	2	15	8	..	..
Myanmar	100	100	8	..	..	100	100	100	..	..	..	8	8	..	2	5	0	..	..	..
Philippines	100	5	100	100	..	5	3	2	0	..	100	19	17	..	1	17	..	0	..	1
Singapore	27	21	14	2	6	21	7	..	19	..	..	9	8	7	0	7	0	..	..	0
Thailand	11	4	9	..	4	4	1	1	1	1	..	4	4	0	3	1	3	0	..	1
Viet Nam	34	22	14	1	7	22	..	1	21	..	1	7	7	0	..	..	6	..	0	..
ASEAN10: by industry																				
Foods	63	29	51	20	5	29	26	13	1	1	10	36	35	3	9	0	27	14	0	9
Chemicals	59	39	36	20	8	39	27	14	16	.	10	9	9	1	2	5	2	0	1	0
Light mfg.	39	18	23	20	7	18	12	11	6	.	10	1	1	.	0	0	0	0	0	.
Metals	37	15	25	20	0	15	14	10	1	.	10	15	15	.	3	12	0	.	.	.
Machineries	48	30	33	21	7	30	20	14	12	.	10	17	10	3	1	9	.	.	1	7
Others	48	24	28	21	2	24	19	10	5	.	12	5	5	0	2	2	2	1	2	.

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated, using our original dataset at the six-digit level of the HS 2002 classification.

Third, some products are more likely to be highly protected than others through a complicated manner by applying multiple NTMs. Both core and non-core NTMs are applied to around 10 per cent of products on average, which is suggested by the fact that frequency ratios are 49 per cent for overall NTMs, 27 per cent for core NTMs, and 32 per cent for non-core NTMs, and the sum of the ratios for core and non-core NTMs exceeds the ratio for overall NTMs. Individual countries, except Lao People's Democratic Republic, reveal a similar trend or have a certain range of products subject to both core and non-core NTMs; for instance, the corresponding overlaps are 45 per cent for Indonesia, 15 per cent for Brunei Darussalam and 14 per cent for Malaysia. A non-negligible portion of products is highly protected by implementing a combination of core and non-core NTMs. Moreover, some products are subject to two or more measures within the same category of core/non-core NTMs simultaneously. These imply a complicated structure of protection for some sensitive products.

3. By-industry features

Tables 2 and 3 report frequency ratios by six industries for ASEAN as a whole and for each country, respectively. The major findings on industrial characteristics include the following two points: first, non-core NTMs, particularly health and sanitary regulations, quality standards, and sanitary and phytosanitary (SPS) measures are widely applied mainly to the industry of animals, plants and food. Second, several types of NTMs are simultaneously utilized to protect industries of animals, plants and food, chemicals and chemical products, and machineries, suggested by the fact that the sum of frequency ratios for core and non-core NTMs significantly exceeds the ratio for overall NTMs in these industries.

Frequency ratios for non-core NTMs are outstandingly high in the industry of animals, plants and food (51 per cent on average); for instance, by-country ratios are 100 per cent for Indonesia and the Philippines, 92 per cent for Malaysia, and 57 per cent for Brunei Darussalam. Moreover, both core and non-core NTMs are applied to more than half of the products in Malaysia (59 per cent). Among non-core NTMs, a variety of technical regulations are dominant in this industry, such as health/sanitary regulations and quality standards in Malaysia (92 per cent) and Indonesia (52 per cent), testing/inspection/quarantine in Indonesia (66 per cent), and SPS measures in Indonesia (55 per cent).

In the industry of chemicals and chemical products, frequency ratios for core NTMs are significantly higher than those in other industries, particularly in Myanmar (100 per cent) and Indonesia (92 per cent), followed by Malaysia (75 per cent), Singapore (58 per cent), and Brunei Darussalam (56 per cent). In addition, a wide range of products in this industry are subject to both core and non-core NTMs in Indonesia (92 per cent) and Brunei Darussalam (56 per cent). Among core NTMs, quantity control measures (39 per cent on average), mainly non-automatic licensing (27 per cent) and prohibitions (16 per cent), are typical. Frequency ratios are particularly high for non-automatic licensing in Malaysia (67 per cent) and Brunei Darussalam (55 per cent) and for prohibitions in Indonesia (80 per cent) and Singapore (57 per cent).

The machinery industry appears to be highly protected in Indonesia and Brunei Darussalam. In the case of Indonesia, 76 per cent of products in this industry are subject to core NTMs, and 68 per cent are subject to both non-automatic licensing and prohibitions. As for non-core NTMs, in addition to para-tariff measures covering all products, Indonesia applies pre-shipment inspection (one of technical measures) to almost 70 per cent of the

products in this industry, resulting in a complicated structure of protection. While Brunei Darussalam also has a notably high frequency ratio for overall NTMs (75 per cent), the way of implementing NTMs is rather simple; almost half of the products are subject to core NTMs, mostly quotas, and 31 per cent of the products are subject to automatic licensing measures, which are part of non-core NTMs.

Table 3. The pervasiveness of NTMs by six industries: frequency ratio (per cent)

	Overall	Core	Non-	Para	Auto.	Quant. contr. meas.				Mono. Tech. meas.				Tech. reg.						PSI
	NTMs	NTMs	core NTMs	-tar. meas.	lic. meas.	Lic.	Quota	Proh.	Ent-sp.											
														MLP	TIQ	SI	HS	SPS	Oths.	
Brunei																				
Foods	75	31	57	..	..	31	28	7	4	..	..	57	57	..	5	..	23	35	..	44
Chemicals	79	56	79	..	79	56	55	5	3	..	..	3	3	3	3	..	3	..	..	..
Light mfg.	7	7	5	..	5	7	7	5	1	..	..	..	..	..	..	..	..	..	..	..
Metals	1	1	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Machineries	75	49	31	..	31	49	6	44	..	..	..	2	2	..	2	..	..	..	..	..
Others	14	13	7	..	7	13	8	0	12	..	..	..	..	..	..	..	..	..	..	..
Cambodia																				
Foods	24	11	24	..	..	11	11	..	..	..	..	24	24	..	..	..	24	..	..	..
Chemicals	7	7	..	..	..	7	7	..	3	..	..	..	..	..	..	..	..	..	..	..
Light mfg.	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Metals	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Machineries	3	3	..	..	..	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..
Others	7	7	..	..	..	7	7	..	..	..	..	..	..	..	..	..	..	..	..	..
Indonesia																				
Foods	100	46	100	100	5	46	46	3	2	..	3	85	85	27	66	..	52	55	..	34
Chemicals	100	92	100	100	..	92	19	33	80	..	1	9	9	6	6	3	3	..	..	3
Light mfg.	100	9	100	100	43	9	..	..	9	..	..	1	1	..	..	1	..	..	..	..
Metals	100	1	100	100	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Machineries	100	76	100	100	12	76	76	..	68	..	..	70	2	..	..	2	..	..	..	68
Others	100	14	100	100	5	14	14	0	..	..	14	..	..	..	..	..	..	..	..	..
Laos																				
Foods	34	..	34	..	..	..	..	..	..	..	..	34	34	..	..	..	34	..	1	..
Chemicals	52	..	52	..	..	..	..	..	..	..	..	52	52	..	..	46	0	..	6	..
Light mfg.	1	..	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	1	..
Metals	15	..	15	..	..	..	..	..	..	..	..	15	15	..	..	15	..	..	..	..
Machineries	8	..	8	..	..	..	..	..	..	..	..	8	8	..	..	..	..	..	8	..
Others	21	..	21	..	..	..	..	..	..	..	..	21	21	..	..	3	1	..	17	..
Malaysia																				
Foods	93	60	92	..	0	60	60	1	1	..	1	92	92	..	..	0	92	42	..	..
Chemicals	78	75	6	..	..	75	67	..	12	..	..	6	6	..	..	2	4	0	..	..
Light mfg.	17	16	4	..	1	16	16	..	..	..	..	3	3	..	..	0	3	3	..	..
Metals	37	36	30	..	..	36	36	..	..	..	..	30	30	..	29	1	..	..	..	..
Machineries	19	12	8	..	3	12	11	..	1	..	..	5	5	..	..	5	..	..	..	..
Others	34	32	17	..	..	32	28	..	3	..	..	17	17	..	..	2	15	14	..	..
Myanmar																				
Foods	100	100	3	..	..	100	100	100	..	..	..	3	3	..	..	..	3	..	..	..
Chemicals	100	100	10	..	..	100	100	100	..	..	..	10	10	..	10	..	..	..	..	..
Light mfg.	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
Metals	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
Machineries	100	100	24	..	..	100	100	100	..	..	..	24	24	..	..	24	..	..	..	..
Others	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
Philippines																				
Foods	100	21	100	100	..	21	10	11	..	..	100	14	4	..	4	..	..	4	..	10
Chemicals	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..	..
Light mfg.	100	2	100	100	..	2	..	..	2	..	100	0	0	..	0	0	..	..	..	..
Metals	100	..	100	100	..	..	..	..	..	..	100	100	100	..	3	100	..	..	..	..
Machineries	100	7	100	100	..	7	7	..	..	..	100	24	24	..	1	24	..	..	..	..
Others	100	..	100	100	..	..	..	..	..	..	100	2	2	..	2	2	..	..	..	..
Singapore																				
Foods	45	7	43	1	42	7	7	..	1	..	..	4	4	3	1	..	1	..	..	0
Chemicals	58	58	4	..	0	58	21	..	57	..	..	3	3	3	..	..	..	..	..	..
Light mfg.	0	0	..	..	0	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..
Metals	0	0	..	..	0	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..
Machineries	33	31	33	6	1	31	0	..	31	..	..	33	33	26	..	33	..	..	..	..
Others	35	34	1	1	..	34	32	..	2	..	..	..	..	..	..	..	..	..	..	..
Thailand																				
Foods	25	13	21	..	..	13	1	6	..	6	..	21	21	0	11	1	19	3	..	5
Chemicals	3	3	0	..	..	3	2	..	1	..	..	0	0	0	0	..	0	..	..	..
Light mfg.	15	1	14	..	14	1	1	0	..	..	..	..	..	..	..	..	..	..	..	..
Metals	1	1	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Machineries	4	2	3	..	1	2	1	..	0	..	..	2	2	1	2	..	..	..	..	..
Others	27	9	18	..	4	9	2	..	7	..	..	15	15	1	15	14	..	..	..	..
Viet Nam																				
Foods	32	1	31	2	3	1	..	1	0	..	1	27	27	..	..	..	27	..	..	..
Chemicals	14	5	10	0	1	5	..	2	2	..	0	9	9	1	..	..	9	..	0	..
Light mfg.	52	49	3	..	2	49	..	..	49	..	0	1	1	..	..	..	1	..	..	..
Metals	13	6	7	..	1	6	..	..	6	..	1	5	5	..	..	..	5	..	..	..
Machineries	40	22	24	1	22	22	..	..	22	..	2	..	..	..	..	..	..	..	..	..
Others	38	29	11	4	3	29	..	0	29	..	4	5	5	..	..	..	0	..	5	..

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by six industries (broad category of industry), using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

4. By-country features

This subsection discusses features of the NTM incidence by 21 industries in each ASEAN countries. In Brunei Darussalam, chemicals and chemical products (Industry 6), animals and animal-origin food (Industry 1), plants, vegetables and fruits (Industry 2), animal/vegetable fats and oils (Industry 3), general/electric machineries (Industry 16), and transport equipment (Industry 17) appear to be highly protected (see table 4). Regarding chemicals and chemical products, automatic licensing measures are applied to all the tariff lines, 70 per cent of which are subject to non-automatic licensing simultaneously. As for animals, plants and food, more than 95 per cent of products in Industries 2 and 3 are subject to technical regulations, such as health/sanitary regulations, quality standards and SPS measures, and 90 per cent of products in Industry 1 are subject to either non-automatic licensing (54 per cent) or health/sanitary regulations & quality standards (50 per cent). As for machineries, all products in Industry 16 are subject to either quantity control measures such as quotas (64 per cent) or automatic licensing measures (36 per cent), and about 60 per cent of products in Industry 17 are subject to automatic licensing measures. Besides, nearly 90 per cent of wood and wood products (Industry 9) are subject to a combination of automatic licensing measures and quantity control measures including both non-automatic licensing and quotas.

As table 5 clearly shows, Cambodia reports very few types of NTMs and a few number of tariff lines subject to them. Although the data should be carefully interpreted, the frequency ratios demonstrate two features: first, health/sanitary regulations and quality standards are applied to 80 per cent of the tariff lines of animals and animal-origin food (Industry 1), about a half of which is simultaneously subject to non-automatic licensing. Second, a fourth of tariff lines of transport equipment (Industry 17) are subject to non-automatic licensing.

In Indonesia, first of all, all the imports are subject to para-tariff measures: value-added tax (VAT) of 10 per cent as well as income tax of 2.5 per cent for licensed importers and 7.5 per cent for other importers (see table 6). Moreover, prohibitions are applied to most of the tariff lines of paper and paper products (Industry 10) (nearly 90 per cent), chemicals and chemical products (Industry 6), and general/electric machineries (Industry 16) (100 per cent); prohibited imports include printed materials such as books, magazines, leaflets, newspapers in Chinese in terms of moral hazard, chemicals and chemical products in terms of national security, colour photocopy machines, and used machinery, equipment and other capital goods (together with a pre-shipment inspection at the loading port). In addition, non-automatic licensing is applied to about 60 per cent of the products of plastics and rubbers (Industry 7) and 70 per cent of transport equipment (Industry 17). Similar to other countries, food industries (Industries 1-4) are likely to be subject to multiple types of technical regulations such as testing/inspection/quarantine requirements, SPS measures, and health/sanitary regulations and quality standards, sometimes combined with non-automatic licensing.

Lao People's Democratic Republic reports only technical regulations (see table 7). Health/sanitary regulations and quality standards are applied to more than 70 per cent of the

products of animals and animal-origin foods (Industry 1), and safety/industrial standards are applied to about 60 per cent of chemicals and chemical products (Industry 6). More than half of tariff lines of transport equipment (Industry 17) are also subject to technical regulations, though the purpose is unspecified.

Table 8 confirms that, in Malaysia, most products in animals, plants and food industries are subject to technical regulations such as health/sanitary regulations and quality standards; they are applied to over 90 per cent of the tariff lines of animals and animal-origin foods (Industry 1), plants, vegetables and fruits (Industry 2), and animal/vegetable fats and oils (Industry 3), and more than 80 per cent of the tariff lines of processed food and beverages (Industry 4). Among various types of measures implemented, non-automatic licensing is the most pervasively utilized measure; the frequency ratios are particularly high, such as 95 per cent for Industry 1, over 60 per cent for Industry 2, nearly 80 per cent for paper and paper products (Industry 10), 65 per cent for wood and wood products (Industry 9), and about 80 per cent for chemicals and chemical products (Industry 6). Prohibition measures are applied to around 60 per cent of the tariff lines of plastics and rubbers (Industry 7).

Similar to Cambodia and the Lao People's Democratic Republic, the information on the implementation of NTMs in Myanmar is quite limited. Nevertheless, based on the figures reported in table 9, multiple NTMs seem to severely impede trade in this country. Firstly, all commercial imports are subject to non-automatic licensing as well as quotas based on export performance. Secondly, as already mentioned, Myanmar is the only country which implements finance control measures; this country has multiple exchange rates for imports, depending on the product type. Although Myanmar's tariff of 5.6 per cent on average is not so high, these measures make it seriously difficult to trade in this country. In addition to these core NTMs, nearly 40 per cent of tariff lines of general/electric machineries (Industry 16) are subject to safety/industrial standards.

In the Philippines, as is the case of Indonesia, para-tariff measures or additional charges are applied to all products (see table 10). Moreover, all products are subject to a single channel for import (monopolistic measures). For example, vessels with a national flag must be used in the case of government procurements. Besides, all imports are subject to various charges including processing fees on ordinary claim for refund, registration fees for participation in public auction sales, laboratory fees for service rendered by the custom laboratory unit, and brokerage fees for licensed customs brokers. The fees themselves are indeed small amounts such as 100-200 pesos per unit, depending on the product. However, administrative and time costs to implement these measures, in addition to actual costs, must not be ignored. At the industry level, frequency ratios are relatively high for non-automatic licensing in the industry of transport equipment (Industry 17) (about 60 per cent) and safety/industrial standards in the industry of base metals and base metal products (Industry 15) (100 per cent).

In the case of Singapore, the portion of tariff lines subject to NTMs is relatively small (see table 11). Automatic licensing measures, however, are applied to more than 90 per cent of tariff lines for animals and animal-origin foods (Industry 1). Moreover, Singapore implements prohibitions for more than 70 per cent of chemicals and chemical products (Industry 6) such as medicines/drugs and cosmetics containing prohibited substances/additives for public health and safety reasons, chemicals known as Persistent Organic Pollutants (in compliance with the Stockholm Convention on Persistent Organic Pollutants), and certain ozone-depleting substances for local distribution/consumption for

environmental protection (in compliance with the Montreal Protocol on Substances that Deplete the Ozone Layer). In addition, about 60 per cent of tariff lines for transport equipment (Industry 17) are subject to prohibitions, together with technical regulations; more specifically, imports of motor vehicles used for more than three years are prohibited for reasons of minimizing traffic congestion and pollution as well as road safety.

In Thailand, the range of applied NTMs is relatively limited, compared with other ASEAN countries (see table 12). Thailand, however, is the only country that implements enterprise-specific restrictions or quantity control measures. These types of measures are applied to more than 20 per cent of tariff lines for processed food and beverages (Industry 4) and about 10 per cent of animal/vegetable fats and oils (Industry 3) for a reason of quality standards. Since this measure allows only registered importers to import as far as quality and standard satisfy, the conditions it should be interpreted as a sort of import restrictions on a discriminatory and no scientific basis. Food industries (Industries 1-4) tend to present higher frequency ratios than other sectors, where import quota, enterprise-specific restrictions, or technical regulations such as testing/inspection/quarantine requirements for reasons of health/sanitary regulations and quality standards are implemented.

Strikingly, various industries are subject to prohibitions in Viet Nam (see table 13). More than 80 per cent of tariff lines of textiles and apparel (Industry 11) and about 70 per cent of footwear (Industry 12) are subject to prohibitions, which are mainly intended for used consumer goods for health, safety, and environmental reasons. The frequency ratios for prohibitions are 20 per cent or more for other industries including transport equipment (Industry 17), leather and leather products (Industry 8), precision machinery (Industry 18), and general/electric machineries (Industry 16). About 70 per cent of the tariff lines of precision machinery (Industry 18) are subject to automatic licensing measures, and about 60 per cent of the tariff lines of plants, vegetables and fruits (Industry 2) are subject to health/sanitary regulations and quality standards.

Table 4. The pervasiveness of NTMs in Brunei Darussalam: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non- core NTMs	Para -tar. meas.	Auto. lic. meas.	Quant. contr. meas.				Mono.	Tech. meas.								PSI	
						Lic.	Quota	Proh.	Ent.- sp.		Tech. reg.									
											MLP	TIQ	SI	HS	SPS	Oths.				
1. Animal-origin	90	54	50	..	..	54	54	..	2	..	..	50	50	..	11	..	50	..	..	29
2. Plants&veggies	96	23	96	..	..	23	22	6	0	..	..	96	96	..	4	..	4	96	..	96
3. Fats&oils	100	..	100	..	..	..	..	..	..	..	..	100	100	..	..	..	###	..	..	.
4. Proc. Food	24	24	..	..	..	24	13	20	11	..	..	..	..	..	..	..	..	..	..	.
6. Chemicals	100	71	100	..	100	71	70	6	4	..	..	4	4	4	4	..	4	..	..	.
7. Plastics&rubbers	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
8. Leather	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
9. Wood	86	86	86	..	86	86	86	86	..	..	..	..	..	..	..	..	..	..	..	.
10. Paper	13	13	..	..	..	13	13	..	13	..	..	..	..	..	..	..	..	..	..	.
11. Textiles&apparel	0	0	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..	.
12. Footwear	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
13. Ceramics&glass	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
14. Prec. stones	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
15. Base metals	1	1	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	.
16. Gen./elec. mac.	100	69	36	..	36	69	5	64	..	..	..	..	..	..	..	..	..	..	..	.
17. Transport equip.	57	20	57	..	57	20	20	..	..	..	..	18	18	..	18	..	..	..	..	.
18. Precision mac.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
5. Minerals	2	2	..	..	..	2	1	1	1	..	..	..	..	..	..	..	..	..	..	.
19. Arms&ammo	100	100	100	..	100	100	100	..	100	..	..	..	..	..	..	..	..	..	..	.
20. Other manuf.	13	13	..	..	..	13	3	..	10	..	..	..	..	..	..	..	..	..	..	.
21.Arts&antiques	14	..	14	..	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

Table 5. The pervasiveness of NTMs in Cambodia: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non- core NTMs	Para -tar. meas.	Auto. lic. meas.	Quant. contr. meas.					Mono.	Tech. meas.								PSI
						Lic.	Quota	Proh.	Ent.- sp.	Tech. reg.										
										MLP		TIQ	SI	HS	SPS	Oths.				
1. Animal-origin	80	37	80	..	..	37	37	..	..	..	..	80	80	..	..	..	80	..	..	.
2. Plants&veggies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
3. Fats&oils	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
4. Proc. Food	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
6. Chemicals	9	9	..	..	..	9	8	..	4	..	..	..	..	..	..	..	..	..	..	.
7. Plastics&rubbers	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
8. Leather	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
9. Wood	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
10. Paper	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
11. Textiles&apparel	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
12. Footwear	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
13. Ceramics&glass	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
14. Prec. stones	17	..	17	..	17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
15. Base metals	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
16. Gen./elec. mac.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
17. Transport equip.	25	25	..	..	..	25	25	..	..	..	..	..	..	..	..	..	..	..	..	.
18. Precision mac.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
5. Minerals	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
19. Arms&ammo	100	100	..	..	..	100	100	..	..	..	..	..	..	..	..	..	..	..	..	.
20. Other manuf.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
21.Arts&antiques	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

Table 6. The pervasiveness of NTMs in Indonesia: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non-core NTMs	Para-tar. meas.	Auto. lic. meas.	Quant. contr. meas.					Mono.	Tech. meas.					PSI			
						Lic.	Quota	Proh.	Ent.-sp.	Tech. reg.		MLP	TIQ	SI	HS	SPS			Oths.	
1. Animal-origin	100	37	100	100	..	37	37	..	6	..	..	92	92	2	53	..	82	51	..	..
2. Plants&veggies	100	21	100	100	3	21	21	0	..	..	1	66	66	..	64	..	2	61	..	21
3. Fats&oils	100	..	100	100	..	..	..	..	..	..	..	100	100	..	..	..	..	100	..	..
4. Proc. Food	100	100	100	100	13	100	100	11	..	..	8	100	100	100	100	..	###	40	..	###
6. Chemicals	100	100	100	100	..	100	8	42	100	..	1	12	12	8	8	4	4	..	..	4
7. Plastics&rubbers	100	59	100	100	..	59	59	..	2	..	..	..	..	..	..	..	..	..	..	..
8. Leather	100	..	100	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9. Wood	100	..	100	100	..	..	..	..	..	..	..	11	11	..	..	11	..	..	..	..
10. Paper	100	87	100	100	..	87	..	..	87	..	..	..	..	..	..	..	..	..	..	..
11. Textiles&apparel	100	0	100	100	69	0	..	..	0	..	..	..	..	..	..	..	..	..	..	..
12. Footwear	100	..	100	100	45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13. Ceramics&glass	100	..	100	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14. Prec. stones	100	..	100	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15. Base metals	100	1	100	100	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
16. Gen./elec. mac.	100	100	100	100	16	100	100	..	100	..	..	100	..	..	..	..	..	..	..	###
17. Transport equip.	100	70	100	100	..	70	70	..	..	..	..	18	18	..	..	18	..	..	..	..
18. Precision mac.	100	..	100	100	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5. Minerals	100	29	100	100	..	29	29	1	..	..	28	..	..	..	..	..	..	..	..	..
19. Arms&ammo	100	..	100	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20. Other manuf.	100	..	100	100	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21.Arts&antiques	100	..	100	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

Table 7. The pervasiveness of NTMs in Laos: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non- core NTMs	Para -tar. meas.	Auto. lic. meas.	Quant. contr. meas.					Mono.	Tech. meas.							PSI	
						Lic.	Quota	Proh.	Ent.- sp.	Tech. reg.										
										MLP		TIQ	SI	HS	SPS	Oths.				
1. Animal-origin	73	..	73	..	..	..	..	..	..	..	..	73	73	..	..	..	73	..	..	.
2. Plants&veggies	2	..	2	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	2	.
3. Fats&oils	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
4. Proc. Food	43	..	43	..	..	..	..	..	..	..	..	43	43	..	..	..	43	..	..	.
6. Chemicals	65	..	65	..	..	..	..	..	..	..	..	65	65	..	..	58	0	..	7	.
7. Plastics&rubbers	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
8. Leather	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
9. Wood	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
10. Paper	3	..	3	..	..	..	..	..	..	..	..	3	3	..	..	..	..	..	3	.
11. Textiles&apparel	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
12. Footwear	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
13. Ceramics&glass	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
14. Prec. stones	23	..	23	..	..	..	..	..	..	..	..	23	23	..	..	..	..	..	23	.
15. Base metals	15	..	15	..	..	..	..	..	..	..	..	15	15	..	..	15	..	..	..	.
16. Gen./elec. mac.	1	..	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	1	.
17. Transport equip.	51	..	51	..	..	..	..	..	..	..	..	51	51	..	..	..	..	..	51	.
18. Precision mac.	5	..	5	..	..	..	..	..	..	..	..	5	5	..	..	..	..	..	5	.
5. Minerals	36	..	36	..	..	..	..	..	..	..	..	36	36	..	..	6	3	..	27	.
19. Arms&ammo	24	..	24	..	..	..	..	..	..	..	..	24	24	..	..	..	..	..	24	.
20. Other manuf.	4	..	4	..	..	..	..	..	..	..	..	4	4	..	..	..	..	..	4	.
21.Arts&antiques	14	..	14	..	..	..	..	..	..	..	..	14	14	..	..	..	..	..	14	.

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

Table 8. The pervasiveness of NTMs in Malaysia: frequency ratio (per cent)

	Overall	Core	Non-	Para	Auto.	Quant.	contr. meas.				Mono. Tech. meas.								PSI	
	NTMs	NTMs	core	-tar.	lic.		Lic.	Quota	Proh.	Ent.-				Tech. reg.						
1. Animal-origin	96	95	96	..	..	95	95	..	3	..	..	96	96	..	..	..	96	61	..
2. Plants&veggies	96	62	96	..	1	62	62	..	..	..	1	96	96	..	..	..	96	61	..
3. Fats&oils	96	30	91	..	..	30	30	..	..	..	..	91	91	..	..	2	91	9	..
4. Proc. Food	86	23	83	..	..	23	23	2	..	..	..	83	83	..	..	..	83	4	..
6. Chemicals	82	79	7	..	..	79	79	..	0	..	..	7	7	..	..	3	4	0	..
7. Plastics&rubbers	60	60	0	..	..	60	22	..	59	..	..	0	0	..	..	0	..	..	..
8. Leather	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9. Wood	65	65	36	..	8	65	65	..	..	..	..	36	36	..	..	..	36	36	..
10. Paper	77	77	..	..	..	77	77	..	..	..	..	..	..	..	..	..	..	..	..
11. Textiles&apparel	5	5	..	..	..	5	5	..	..	..	..	..	..	..	..	..	..	..	..
12. Footwear	2	2	2	..	2	2	2	..	..	..	..	..	..	..	..	..	..	..	..
13. Ceramics&glass	13	8	12	..	..	8	8	..	..	..	..	12	12	..	..	5	7	7	..
14. Prec. stones	6	..	6	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15. Base metals	37	36	30	..	..	36	36	..	..	..	..	30	30	..	29	1	..	..	..
16. Gen./elec. mac.	21	15	7	..	..	15	14	..	2	..	..	7	7	..	..	7	..	..	..
17. Transport equip.	28	4	23	..	23	4	4	..	..	..	..	..	..	..	..	..	..	..	..
18. Precision mac.	5	5	3	..	..	5	5	..	..	..	..	3	3	..	..	3	..	..	..
5. Minerals	43	41	32	..	..	41	41	..	..	..	..	32	32	..	..	2	30	29	..
19. Arms&ammo	5	5	..	..	..	5	..	..	5	..	..	..	..	..	..	..	..	..	..
20. Other manuf.	30	27	3	..	..	27	20	..	7	..	..	3	3	..	..	3	..	..	..
21.Arts&antiques	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

Table 9. The pervasiveness of NTMs in Myanmar: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non- core NTMs	Para -tar. meas.	Auto. lic. meas.	Quant. contr. meas.				Mono. Tech. meas.										PSI
						Lic.	Quota	Proh.	Ent.- sp.					Tech. reg.						
														MLP	TIQ	SI	HS	SPS	Oths.	
1. Animal-origin	100	100	10	..	..	100	100	100	..	..	..	10	10	..	..	..	10	..	..	..
2. Plants&veggies	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
3. Fats&oils	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
4. Proc. Food	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
6. Chemicals	100	100	13	..	..	100	100	100	..	..	..	13	13	..	13	..	..	..	..	..
7. Plastics&rubbers	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
8. Leather	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
9. Wood	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
10. Paper	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
11. Textiles&apparel	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
12. Footwear	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
13. Ceramics&glass	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
14. Prec. stones	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
15. Base metals	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
16. Gen./elec. mac.	100	100	36	..	..	100	100	100	..	..	..	36	36	..	..	36	..	..	..	..
17. Transport equip.	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
18. Precision mac.	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
5. Minerals	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
19. Arms&ammo	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
20. Other manuf.	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..
21.Arts&antiques	100	100	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

Table 10. The pervasiveness of NTMs in the Philippines: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non- core NTMs	Para -tar. meas.	Auto. lic. meas.	Quant. contr. meas.					Mono.	Tech. meas.								PSI
						Lic.	Quota	Proh.	Ent.- sp.	Tech. reg.		MLP	TIQ	SI	HS	SPS	Oths.			
1. Animal-origin	100	25	100	100	..	25	..	25	..	..	100	11	11	..	11	..	..	11	..
2. Plants&veggies	100	30	100	100	..	30	28	3	..	..	100	28	..	..	..	..	..	..	28
3. Fats&oils	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
4. Proc. Food	100	8	100	100	..	8	..	8	..	..	100	1	1	..	1	..	..	1	..
6. Chemicals	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
7. Plastics&rubbers	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
8. Leather	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
9. Wood	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
10. Paper	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
11. Textiles&apparel	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
12. Footwear	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
13. Ceramics&glass	100	..	100	100	..	..	..	..	..	..	100	1	1	..	1	1	..	..	..
14. Prec. stones	100	49	100	100	..	49	..	..	49	..	100	..	..	..	..	..	..	..	..
15. Base metals	100	..	100	100	..	..	..	..	..	..	100	100	100	..	3	100	..	..	..
16. Gen./elec. mac.	100	0	100	100	..	0	0	..	..	..	100	36	36	..	1	36	..	..	..
17. Transport equip.	100	57	100	100	..	57	57	..	..	..	100	..	..	..	..	..	..	..	..
18. Precision mac.	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
5. Minerals	100	..	100	100	..	..	..	..	..	..	100	3	3	..	3	3	..	..	..
19. Arms&ammo	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
20. Other manuf.	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..
21.Arts&antiques	100	..	100	100	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

Table 11. The pervasiveness of NTMs in Singapore: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non- core NTMs	Para -tar. meas.	Auto. lic. meas.	Quant. contr. meas.				Ent.- sp.	Mono.	Tech. meas.							PSI	
						Lic.	Quota	Proh.	Tech. reg.											
									MLP			TIQ	SI	HS	SPS	Oths.				
1. Animal-origin	93	11	92	..	92	11	10	..	1	..	..	9	9	6	3	..	..	..	..	..
2. Plants&veggies	40	6	38	..	38	6	6	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Fats&oils	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4. Proc. Food	9	4	5	5	..	4	4	..	4	..	..	5	5	5	..	..	5	..	..	1
6. Chemicals	73	73	5	..	0	73	26	..	72	..	..	4	4	4	..	..	..	..	..	..
7. Plastics&rubbers	0	0	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..
8. Leather	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9. Wood	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10. Paper	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11. Textiles&apparel	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12. Footwear	2	2	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..
13. Ceramics&glass	1	1	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
14. Prec. stones	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15. Base metals	0	0	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..
16. Gen./elec. mac.	38	36	38	..	1	36	0	..	36	..	..	38	38	38	..	38	..	..	..	..
17. Transport equip.	57	57	57	57	..	57	..	..	57	..	..	57	57	..	..	57	..	..	..	..
18. Precision mac.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5. Minerals	50	47	3	3	..	47	47	..	1	..	..	..	..	..	..	..	..	..	..	..
19. Arms&ammo	100	100	..	..	..	100	100	..	..	..	..	..	..	..	..	..	..	..	..	..
20. Other manuf.	8	8	..	..	..	8	4	..	5	..	..	..	..	..	..	..	..	..	..	..
21.Arts&antiques	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

Table 12. The pervasiveness of NTMs in Thailand: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non- core NTMs	Para -tar. meas.	Auto. lic. meas.	Quant. contr. meas.				Mono. Tech. meas.										PSI	
						Lic.	Quota	Proh.	Ent.- sp.					Tech. reg.							
														MLP	TIQ	SI	HS	SPS	Oths.		
1. Animal-origin	39	2	39	..	..	2	..	2	..	..	..	39	39	..	36	..	39	..	..	.
2. Plants&veggies	13	10	13	..	..	10	0	10	..	..	..	13	12	..	0	..	10	8	..	13
3. Fats&oils	17	17	17	..	..	17	..	9	..	9	..	17	17	4	..	13	4	..	..	.
4. Proc. Food	27	27	13	..	..	27	4	5	..	21	..	13	13	..	..	..	13	1	..	.
6. Chemicals	3	2	1	..	..	2	2	..	..	..	..	1	1	1	1	..	1	..	..	.
7. Plastics&rubbers	5	5	..	..	..	5	2	..	3	..	..	..	..	..	..	..	..	..	..	.
8. Leather	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
9. Wood	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
10. Paper	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
11. Textiles&apparel	24	0	24	..	24	0	0	0	..	..	..	..	..	..	..	..	..	..	..	.
12. Footwear	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
13. Ceramics&glass	6	6	..	..	..	6	6	..	..	..	..	..	..	..	..	..	..	..	..	.
14. Prec. stones	4	4	..	..	..	4	4	..	..	..	..	..	..	..	..	..	..	..	..	.
15. Base metals	1	1	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	.
16. Gen./elec. mac.	1	1	0	..	0	1	0	..	1	..	..	..	..	..	..	..	..	..	..	.
17. Transport equip.	10	10	4	..	..	10	10	..	1	..	..	4	4	..	4	..	..	..	..	.
18. Precision mac.	13	..	13	..	4	..	..	..	..	..	..	9	9	3	9	..	..	..	..	.
5. Minerals	9	2	7	..	7	2	2	..	..	..	..	..	..	..	..	..	..	..	..	.
19. Arms&ammo	100	100	..	..	..	100	..	..	100	..	..	..	..	..	..	..	..	..	..	.
20. Other manuf.	35	2	35	..	..	2	1	..	2	..	..	35	35	2	35	34	..	..	..	.
21.Arts&antiques	29	29	..	..	..	29	29	..	..	..	..	..	..	..	..	..	..	..	..	.

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

Table 13. The pervasiveness of NTMs in Viet Nam: frequency ratio (per cent)

	Overall NTMs	Core NTMs	Non- core NTMs	Para -tar. meas.	Auto. lic. meas.	Quant.	contr. meas.				Mono.	Tech. meas.							PSI
							Lic.	Quota	Proh.	Ent.- sp.		Tech. reg.	MLP	TIQ	SI	HS	SPS	Oths.	
1. Animal-origin	11	0	10	..	10	0	..	0	..	..	..	4	4	..	..	..	4	..	..
2. Plants&veggies	60	1	59	..	..	1	..	..	1	..	..	59	59	..	..	..	59	..	..
3. Fats&oils	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4. Proc. Food	24	4	22	9	..	4	..	4	..	..	3	13	13	..	..	..	13	..	..
6. Chemicals	14	4	10	0	2	4	..	3	1	..	0	10	10	1	..	..	10	..	0
7. Plastics&rubbers	14	8	7	..	..	8	..	..	8	..	..	7	7	..	..	..	7	..	..
8. Leather	28	28	..	..	..	28	..	..	28	..	..	..	..	..	..	..	..	..	..
9. Wood	13	13	..	..	..	13	..	..	13	..	..	..	..	..	..	..	..	..	..
10. Paper	27	9	26	..	19	9	..	..	9	..	3	7	7	..	..	..	7	..	..
11. Textiles&apparel	69	68	0	..	..	68	..	..	68	..	..	0	0	..	..	..	0	..	..
12. Footwear	84	84	..	..	..	84	..	..	84	..	..	..	..	..	..	..	..	..	..
13. Ceramics&glass	12	12	..	..	..	12	..	..	12	..	..	..	..	..	..	..	..	..	..
14. Prec. stones	13	6	8	..	..	6	..	..	6	..	..	8	8	..	..	..	8	..	..
15. Base metals	13	6	7	..	1	6	..	..	6	..	1	5	5	..	..	..	5	..	..
16. Gen./elec. mac.	29	20	12	1	11	20	..	..	20	..	2	..	..	..	..	..	..	..	..
17. Transport equip.	41	34	21	8	7	34	..	..	34	..	7	..	..	..	..	..	..	..	..
18. Precision mac.	77	23	68	..	68	23	..	..	23	..	..	..	..	..	..	..	..	..	..
5. Minerals	17	9	8	8	..	9	..	1	9	..	8	..	..	..	..	..	..	..	..
19. Arms&ammo	81	81	..	..	..	81	..	..	81	..	..	..	..	..	..	..	..	..	..
20. Other manuf.	54	42	15	..	4	42	..	..	42	..	..	12	12	..	..	..	1	..	11
21.Arts&antiques	86	71	43	..	43	71	..	..	71	..	..	..	..	..	..	..	..	..	..

Source: Authors' calculation based on the data obtained from the ASEAN Non-tariff Measures database, <http://www.aseansec.org/16355.htm>.

Note: Frequency ratios are calculated by 21 industries, using our original dataset at the six-digit level of the HS 2002 classification. See Appendix B for the industry classification.

C. NTMs and ASEAN's efforts toward the establishment of ASEAN Economic Community

ASEAN countries have started to make various efforts to establish the ASEAN Economic Community (AEC) by 2015. According to the AEC blueprint,³⁸ ASEAN seems to seriously recognize the importance of reducing/eliminating NTBs and strengthening trade and investment facilitation, given the fact that ASEAN has achieved significant progress in tariff liberalization.³⁹

Regarding the elimination of NTBs, the blueprint presents five action plans: (i) enhance transparency by abiding to the protocol on notification procedures and setting up an effective surveillance mechanism; (ii) abide by the commitment of a standstill and rollback on NTBs; (iii) remove all NTMs by 2010 for ASEAN5 (Brunei Darussalam, Indonesia, Malaysia, Singapore and Thailand), by 2012 for the Philippines, and by 2015 with flexibilities to 2018 for CLMV (Cambodia, Lao People's Democratic Republic, Myanmar and Viet Nam); (iv) enhance transparency of NTMs; and (v) work towards, whenever possible, having regional rules and regulations consistent with international best practices.⁴⁰

The schedule for eliminating NTBs appears in the ASEAN Trade in Goods Agreement (ATIGA), which has been signed basically in 2008.⁴¹ According to ATIGA, ASEAN countries are supposed to eliminate identified NTBs in three stages: the targeted dates for elimination, according to the stages, are 1 January of 2008, 2009 and 2010 for ASEAN5; 1 January of 2010, 2011 and 2012 for the Philippines; and 1 January of 2013, 2014 and 2015 with flexibilities up to 2018 for CLMV.

Major actions for the realization of this schedule include setting up a classification of three groups of NTBs, red, amber and green, as a criteria of identified (unfair and unjustified) NTBs in 2005 and preparing the work programme to implement the elimination of NTMs that are identified to be removed in 2006. In the process, each ASEAN country is supposed to submit a list of identified NTBs and to review the classification that the ASEAN Secretariat provides as the categorization of those NTMs into three groups for the verification. Then, the range of NTBs to be removed and its timing are supposed to be considered by the Coordinating Committee on the Implementation of the CEPT for AFTA (CCCA) and other committees.⁴²

³⁸ The AEC blueprint is available from the following website, <http://www.aseansec.org/21083.pdf>.

³⁹ Average tariffs in 2007 (simple average at the HS six-digit level) are 3.6 per cent for Brunei Darussalam, 14.2 per cent for Cambodia, 6.9 per cent for Indonesia, 9.7 per cent for Lao People's Democratic Republic, 8.4 per cent for Malaysia, 5.6 per cent for Myanmar, 6.3 per cent for the Philippines, 0 for Singapore, 10.0 per cent for Thailand and 11.4 per cent for Viet Nam (WTO, ITC, and UNCTAD, 2008). Note that average rates of tariffs actually implemented must be much lower, considering preferential tariffs (AFTA-CEPT tariffs), duty drawback system, and so on.

⁴⁰ The terms, NTBs and NTMs, are used here exactly same as in the blueprint.

⁴¹ The agreement of ATIGA is obtained from <http://www.thaifita.com/ThaiFTA/Portals/0/atiga.pdf>.

⁴² Whether these actions are carried out as scheduled is another question. Not all the ASEAN countries seem to have implemented these actions as scheduled. See Ando (2009) for more information on this and discussion on NTM-related areas in the AEC blueprint.

The AEC blueprint also covers the area of technical measures (standards and technical barriers to trade), which are one of NTMs in the broadly defined categorization, to promote greater efficiency and enhance cost effectiveness of the production of intra-regional exports/imports. Moreover, the blueprint explicitly incorporates other areas that could distort trade and influence efficiency of trade such as rules of origin and custom clearance for encouragement of trade facilitation. One of the most attracting plans among them is the realization of ASEAN single windows (ASW) for simplifying, harmonizing and standardizing trade and customs. It should contribute to the reduction of transaction time and costs as well as the enhancement of trade efficiency and competitiveness. According to the blueprint, national single windows (NSW) were supposed to be formed by 2008 for ASEAN6 (ASEAN5 plus the Philippines) and by 2012 at the latest for CLMV. ASW will be established by integrating the NSWs of individual countries. Although NSW has been fully operated only in Singapore at the beginning of 2009, pilot studies or partial operations have been launched in other ASEAN member countries as well.

Regardless of whether reduction/elimination of NTMs or promotion of trade facilitation, it is not easy to carry them out in practice. How to implement these action plans in the blueprint would be a big challenge for ASEAN. It is, however, apparent that ASEAN has a strong recognition of the importance of their challenge for these issues.

D. Conclusion

This paper has investigated the pervasiveness of NTMs in ASEAN by industry as well as by the type of NTMs, employing one of the inventory approaches, the frequency ratio measure. More specifically, this paper has constructed a common dataset of NTMs across countries and attempted to identify what sorts of NTMs are implemented, how pervasively they are applied, and which industries are more widely protected than others in the region.

Our frequency-ratio-based analysis reveals that although how to implement NTMs differs among countries, (i) there exist various trade impediments in ASEAN, (ii) non-core NTMs, which can be described as trade protecting measures, are in general more pervasively utilized than core NTMs or more direct and explicit trade barriers, and (iii) some products are likely to be more highly protected than others in a complicated manner by applying multiple NTMs. Our by-industry analysis also demonstrates that (i) non-core NTMs, particularly health and sanitary regulations and quality standards and SPS measures, are widely applied mainly to the industry of animals, plants and food, and (ii) several types of NTMs are simultaneously utilized to protect industries such as animals, plants and food, chemicals and chemical products, and machineries.

It is essential to reveal existing NTMs in practice, though it is not an easy task to fully identify all the existing measures due to the non-transparent nature of NTMs. Some countries may not recognize certain trade-distorting measures as an NTM or may not sufficiently capture the actual implementation. All the measures examined in this paper could induce trade restrictions and raise trade costs; even government policies, the implementation of which is legitimate under multilateral trading rules or can be justified with certain rational reasons, could become disguised trade restrictions when they are intentionally implemented to impede trade or protect domestic industries. It is also crucial to seriously understand that simultaneous implementation of various NTMs would cause not only actual (physical) costs but also the administrative costs and time costs.

Enhancing trade liberalization and facilitation is particularly important for ASEAN countries to further develop international production/distribution networks that have been rapidly formed in East Asia since the 1990s. In the process of establishing AEC, ASEAN countries have attempted to make efforts to reduce/eliminate NTMs and enhance trade facilitation. Although all the action plans for trade facilitation may not be easily carried out, we would like to expect the realization of the ASW as the first and greatest step.

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Appendix A

Method for categorizing NTMs

NTMs are classified into 15 different types at the most disaggregated level, based on the information voluntarily reported by each of ASEAN countries. Since description of the application of NTMs varies across countries, the following criteria are employed to determine the types of NTMs that are reported by each country and to develop our dataset based on the common classification.

An NTM is identified as “non-automatic licensing” / “prior to authorization for sensitive product categories” under the category of quantity control measures if the description of the NTM refers the requirement of product registration *not* aiming at quality control, including the case when the NTM is originally reported as licensing measures.

An NTM is identified as “testing, inspection and quarantine requirements” under the subcategory of technical regulations if the following words, “testing”, “quarantine”, and/or “inspection”, appear in the description of the NTM.

For manufactured products and materials, an NTM is regarded as “safety and industrial standards” under the subcategory of technical regulations (i) if the description of the NTM refers to the standard that is required to be satisfied by the exported product, or (ii) if the description of the NTM refers to the requirement of product registration aiming at quality control.

For food and processed food, and chemicals and chemical products, an NTM is regarded as “health and sanitary regulations, and quality standards” if the description of the NTM includes the requirement of certificate or product registration aiming at quality control.

For live animals and animal-origin products and plants, an NTM is regarded as “health and sanitary regulations and quality standards” under the subcategory of technical regulations when the NTM is *not* originally listed as SPS measures and (i) if the description of an NTM refers to the requirement of certificate, or (ii) if the NTM is subject to rules of origin.

An NTM is regarded as “SPS measures” under the subcategory of technical regulations if the description of the NTM includes the phrase “sanitary and phytosanitary (SPS) measures” or “the SPS agreement”.

An NTM is classified into “pre-shipment inspection” under the category of technical measures (i) if testing or inspection is required at the port of entry prior to exporting, or (ii) if the description of the NTM refers to the requirement of certificate issued by the country of origin.

Appendix B

Industry classification and the corresponding HS two-digit codes

Classification: 6 industries	Classification: 21 industries	HS codes	Number of tariff lines (5,224)
Animals, plants and foods (729)	1. Live animals; edible products of animal origin	HS1-5	220
	2. Live plants; edible vegetables and fruits; vegetable products	HS6-14	269
	3. Animal or vegetable fats and oils	HS15	46
	4. Edible preparations; beverages; tobacco	HS16-24	194
Chemicals and chemical products (1,025)	6. Chemicals and chemical products	HS28-38	813
	7. Plastics and articles thereof; rubber and articles thereof	HS39-40	212
Light manufactured goods (1,404)	8. Raw hides and skins; leather and articles thereof; fur skins and fur products	HS41-43	74
	9. Wood and articles thereof; wood charcoal; cork and articles thereof; straw and esparto products	HS44-46	84
	10. Pulp, paper, and paperboard and articles thereof; products of printing industry	HS47-49	150
	11. Textile fibers; yarn; textile and woven fabrics; articles of apparel and clothing accessories	HS50-63	848
	12. Footwear; headgear; umbrellas and sticks	HS64-67	55
	13. Articles of stone, plaster, cement, asbestos and mica; ceramic products; glass and glassware	HS68-70	140
	14. Natural or cultured pearls, precious or semi-precious stones	HS71	53
Metals and metal products (584)	15. Base metals and articles thereof	HS72-83	584
Machineries (1,172)	16. Machinery and mechanical appliances and parts thereof; electrical machinery and equipment and parts thereof	HS84-85	799
	17. Vehicles and parts thereof; aircraft, spacecraft, and parts thereof; ships, boats and floating structures	HS86-89	134
	18. Optical, photographic, cinematographic, measuring, checking, precision, medical instruments; clocks and watches and parts thereof; musical instruments and parts and accessories thereof	HS90-92	239
Other products (310)	5. Minerals and mineral products	HS25-27	152
	19. Arms and ammunition and parts and accessories thereof	HS93	21
	20. Miscellaneous manufactured articles	HS94-96	130
	21. Works of art, collectors' pieces and antiques	HS97	7

Notes: The figures in parentheses in the column of six industries show the total numbers of tariff lines in respective industries.

Chapter III

The global economic crisis and rising NTMs – is South-South trade a viable solution

By Rajan Sudesh Ratna⁴³

Introduction

The year 2008 will be remembered in history due to the global financial crisis, which started in the third quarter, when on the 15th of September the United States investment bank Lehman Brothers collapsed. This led to extraordinary financial turmoil. The unprecedented global economic crisis, which has had effects worldwide, has its origin in the advanced industrial economics in the West. Despite having no responsibility for this crisis, it is the developing countries which have faced the brunt of it, due to the crisis's global impact proving the high inter-dependence of countries all around the world.

The concept of the “global-village” has become a reality due to this financial crisis, which started from and affected the developed countries, but its spill-over effects have adversely hit the developing countries too. This spill-over effect was not confined to the financial market only, but equally impacted global trade, investment flows, developmental plans, as well as poverty eradication plans and employment.

A. Impact on trade

The crisis has shown the vulnerability of the global trading system where due to economic deterioration in a rich economy, the adverse effects are felt by other nations, especially the developing countries, including LDCs. Since most of the trade of developing countries is with the developed countries, their exports were also hit hard due to the economic crisis. These countries have been hit due to the falling prices, reduced capital flows as foreign investors exit these markets to shore up their losses at in their home countries, falling remittances from the workers/professionals working abroad and job losses. The situation is further worsened in countries which are small and vulnerable economics and LDCs as they trade in very few commodity exports. The current economic crisis has further marginalized the developing countries as most of them lack the capacity and resources to implement effective countercyclical policies, as adopted by the developed countries to cushion the impact of the crisis and thereby resulting in shrinking fiscal revenues, increasing demand for social safety nets and higher levels of unemployment. The initial thinking therefore, that the developing countries are “decoupled” from the global crisis has been proved wrong.

Due to the current global financial crisis the world economy is in the midst of its deepest recession in years and a virtual collapse in world trade has brought challenges to many countries that are adversely affected due to the contraction of their export markets. The 10 per cent decline in world trade in 2009, as estimated originally by WTO, has become a

⁴³ The views expressed are personal to author and may not necessarily reflect the views of the Institute where he is working. The author is also thankful to Simon J. Evenett, Mia Mikic and D.K. Mittal for their support and views on building this paper.

reality and has been the biggest decline since World War II. This has also led to a collapse in the exports of those countries which had adopted the export-led growth model. The collapse, of aggregate demand in Europe and North America has dragged down the volume of merchandise trade back to the level at which it stood in 2005.

ILO (2009a and 2009b) has described the impact of the crisis as a “global catastrophe” and estimated the job-loss of 39 million persons which can go up to 59 million in the worst situation. The FAO (2009) has also estimated that the number of hungry has risen from 915 million in 2008 to 1.02 million in 2009, an increase of 11 per cent. Similarly the World Bank has estimated an unforeseen increase in the number of poor, with about 60 million pushed into poverty by 2009 and 100 million pushed into poverty by 2010 only in Asia. In the context of Asia; it has been estimated that the capital outflow from the developing countries was about \$US 10 trillion by the end of 2008 – about one year’s GDP in this region (Chibber, 2009). The huge outflow of capital from developing countries has resulted in a severe financial crunch, with the credit almost dried up for small producers in informal sectors (Hirway, 2009).

The UNCTAD Trade and Development Report (UNCTAD, 2009a) has pointed out that the growth of gross domestic product (GDP) grounded to a halt in most of the developed countries even before the finance turmoil turned into a full blown crisis in September 2008. It has pointed out that in 2009 the global GDP is expected to fall by more than 2.5 per cent and that it is unprecedented in depth and breadth, with virtually no economy left unscathed, even China and India which are expected to grow during this period (though lesser than previous years). UNCTAD has also warned that the likelihood is quite low, that a recovery in the major developing countries would be strong enough to bring the world economy back to its pre-crisis growth path in the coming years. It has forecast that the global GDP may however, turn positive again in 2010, but is unlikely to exceed 1.6 per cent.

As far as global foreign direct investment (FDI) are concerned, the UNCTAD World Investment Report (UNCTAD, 2009b) has pointed out that the FDI are expected to fall from \$US 1.7 trillion in 2008 to below \$US 1.2 trillion in 2009 with a slow recovery in 2010 (\$US 1.4 trillion) and gaining momentum in 2011 (approaching \$US 1.8 trillion). It has been further observed that greenfield investments were initially more resilient to the crisis in 2008, but were hit badly in 2009. On the other hand, cross-border mergers and acquisitions have been on a continuous decline and disinvestments were particularly significant during the crisis.

On the issue concerning the impact of the crisis on the global trading trends in services, due to the lack of data a correct prediction appears to be difficult. However, the figures for leading economies suggest that services trade was initially less affected by the global recession than merchandise trade, but that since the middle of 2009 it has started to contract more sharply (WTO, 2009).

The WTO report (WTO, 2009) pointed that no WTO Member has retreated into widespread trade restriction or protectionism, nor has there been any significant instance of trade retaliation and that these measures cover collectively only 1 per cent of world merchandise trade and were concentrated in:

- a) Agricultural
- b) Iron and steel products

- c) Consumer electronics
- d) Textiles, clothing and footwear

Though in comparison with the total global trade, in percentage terms the figure may appear to be insignificant, the fact that many developing countries and LDCs have a very miniscule contribution to the world trade, as they are dependent on only a few products' exports, this yardstick may not reflect a correct picture. Such measures will definitely affect adversely the bilateral trade flows and are significant in terms of individual country's exports, economic activity and unemployment. It is also worth noticing that products listed above are those which the developing countries export.

B. Was the crisis predictable?

The origins of the global financial and economic crisis dates back to 2007 when major financial institutions began to incur heavy losses as a result of their exposure to the market for sub-prime mortgages. The uncertainty about the extent of losses restricted the intra-bank credit flows as well as to the business and consumers. The situation further deteriorated and finally the failure of Lehman Brothers Investment Bank in September 2008 opened the floodgates for the worst financial crisis the world has ever witnessed. In contrast to the popular belief that the crisis is an off-shoot of 2008 developments, there are several studies that point out that this is not the case. The foundation of the crisis was laid down a couple of years earlier when the Governments of major economics failed to recognize the need for implementing sound economic policies for disciplining uncontrolled financial aspirations.

C. Post crisis promises

After the initial shock of the crisis, each policymaker was compelled to consider measures for helping its nation to recover from the impact of the financial crisis. Many WTO Members faced increased pressure to take protectionist actions. The imminent danger of an incremental build-up of restrictions that could slowly strangle international trade and undercut the effectiveness of policies to boost aggregate demand and restore sustained growth globally became a reality.

At meetings in mid-November 2008, G20, APEC, and separately China, Japan and the Republic of Korea, at Heads of State-level, pledged to refrain, over the next 12 months, from raising new barriers to trade and investment, imposing new export restrictions, or implementing WTO inconsistent measures to stimulate exports.⁴⁴

⁴⁴ For example, paragraph 13 of the Declaration issued at the G20 Summit on Financial Markets and the World Economy, Washington, D.C., 14-15 November 2008 states: "We underscore the critical importance of rejecting protectionism and not turning inward in times of financial uncertainty. In this regard, within the next 12 months, we will refrain from raising new barriers to investment or to trade in goods and services, imposing new export restrictions, or implementing World Trade Organization (WTO) inconsistent measures to stimulate exports. Further, we shall strive to reach agreement this year on modalities that leads to a successful conclusion to the WTO's Doha Development Agenda with an ambitious and balanced outcome. We instruct our Trade Ministers to achieve this objective and stand ready to assist directly, as necessary. We also agree that our countries have the largest stake in the global trading system and therefore each must make the positive contributions necessary to achieve such an outcome."

In G20 Summit held in London in April 2009, the Leaders agreed to refrain from raising new barriers to investment or to trade in goods and services, imposing new export restrictions, or implementing WTO inconsistent measures to stimulate exports. They extended this pledge to the end of 2010. They also decided to minimise any negative impact on trade and investment of their domestic policy actions, including fiscal policy and action in support of the financial sector, and committed to take steps to promote and facilitate trade and investment.

Box 1. Resisting protectionism and promoting global trade and investment

“22. World trade growth has underpinned rising prosperity for half a century. But it is now falling for the first time in 25 years. Falling demand is exacerbated by growing protectionist pressures and a withdrawal of trade credit. Reinvigorating world trade and investment is essential for restoring global growth. We will not repeat the historic mistakes of protectionism of previous eras. To this end:

- we reaffirm the commitment made in Washington: to refrain from raising new barriers to investment or to trade in goods and services, imposing new export restrictions, or implementing World Trade Organisation (WTO) inconsistent measures to stimulate exports. In addition we will rectify promptly any such measures. We extend this pledge to the end of 2010;
- we will minimise any negative impact on trade and investment of our domestic policy actions including fiscal policy and action in support of the financial sector. We will not retreat into financial protectionism, particularly measures that constrain worldwide capital flows, especially to developing countries;
- we will notify promptly the WTO of any such measures and we call on the WTO, together with other international bodies, within their respective mandates, to monitor and report publicly on our adherence to these undertakings on a quarterly basis;
- we will take, at the same time, whatever steps we can to promote and facilitate trade and investment; and
- we will ensure availability of at least \$250 billion over the next two years to support trade finance through our export credit and investment agencies and through the MDBs. We also ask our regulators to make use of available flexibility in capital requirements for trade finance.

23. We remain committed to reaching an ambitious and balanced conclusion to the Doha Development Round, which is urgently needed. This could boost the global economy by at least \$150 billion per annum. To achieve this we are committed to building on the progress already made, including with regard to modalities.

24. We will give renewed focus and political attention to this critical issue in the coming period and will use our continuing work and all international meetings that are relevant to drive progress.”

Source: “The Global Plan for Recovery and Reform, 2 April 2009”, G20 London Summit, 1-2 April 2009.

The 21st APEC Ministerial meeting in Singapore (11-12 November 2009) also discussed the protectionist measures that were taken by several countries. While expressing their concerns, they reaffirmed the concrete commitments undertaken at the Singapore meeting of Ministries Responsible for Trade in July 2009 to keep their markets open and resist all forms of protectionism. They also undertook the commitment that they would exercise maximum restraint in implementing any protectionist measure even if it would be WTO Consistent. The 17th APEC Economic Leaders' meeting (Singapore, 14-15 November 2009) discussed "Sustaining Growth, Connecting the Region". The Leaders reiterated their common goal to support growth and prosperity in the Asian and Pacific region, through free and open trade and investment as embedded in the Bogor Goals. The Leaders declared:

"A year ago, as the world descended into an economic crisis unprecedented in severity since the Great Depression, we resolved that we would aim to overcome the crisis within eighteen months. Today, our robust policy responses have helped to set the stage for recovery. But economic recovery is not yet on a solid footing. Our commitments to reject protectionism and keep our markets open and free have enabled trade to be part of the solution rather than the problem. We will maintain our economic stimulus policies until a durable economic recovery has clearly taken hold.

We will work together to strengthen the momentum towards strong, sustainable and balanced global economic growth, as set out at the recent G20 Summit in Pittsburgh."

D. Reality check

Despite all this rhetoric, some G20 members violated the pledge taken at G20 Summit even before the ink was dry on the Washington Summit Declaration and most of the measures are still in force. Several of such measures were either "WTO-compatible" or were applied due to incomplete or absent disciplines (government procurement and/or subsidies in services), but the fact remains that the pledges were never maintained, neither in spirit nor in letter.

In actual practice, many countries imposed several non-tariff measures, although fully compliant with the WTO rules, the intention was to protect the domestic industries. Several fiscal packages were also announced, especially by the developed countries. Many developing countries have put in place sound macro and fiscal policies, and now find themselves at the mercy of a crisis not of their making. A retreat to protectionism or economic nationalism by developed countries (Buy America or "locals first" in the United Kingdom and Swiss job markets) undermined their interests even further. The developing countries were particularly hit because of the massive cut-back in finances available to them because of the blockage of inter-bank flows and a global reassessment of credit risk. Furthermore, many export-dependent developing countries were affected because of the general slowdown in developed country markets.

Many countries, especially the developed ones, have adopted fiscal stimulus packages that support selected industries, including the car industry and financial sectors. Other countries have announced tariff increases and/or new or more restrictive non-tariff barriers such as licensing requirements or subsidies. This only worsened the economic situation for all and diminished prospects for an early recovery in economic activity. Protectionism could also provoke retaliatory action by others that would compound the damage caused. Most of the Governments have defended their policies as complying with their WTO obligations; they are

almost equally quick in threatening retaliation or litigation under WTO rules with respect to other countries' protectionist movement.

Because of the nearly universal pattern of falling growth in this global recession, it was difficult for individual countries to export their way out of the slowdown. In the East Asian crisis of the late 1990s, it was possible for Thailand, Republic of Korea, Indonesia and other affected countries to recover growth through sharp export expansion and a swing from current account deficits to large current account surpluses, because the United States and other major economies were sustaining growth. In the present global recession, some emerging-market economies may be able to achieve export growth as a consequence of substantial currency depreciation that has already taken place.

The developing countries continue to remain vulnerable to a further contraction of their exports, as well as to shortages of bank financing and declining FDI, falling commodity prices, reductions in earnings from remittances and uncertainty over future official development assistance. The low-income which do not have the economic or social safety nets to withstand the shocks are much more vulnerable. The developing countries do not have the capacity to pursue large stimulus packages. They are also heavily dependent on developed country markets. However, some of the studies by intergovernmental agencies have pointed out that the worst phase is over and the global economy has started expanding again. IMF (2009) in its recent report has pointed out that the recovery has started and the challenge is to sustain it. It states that though the financial conditions have improved markedly, it will still take some time until the outlook for employment improves significantly. The report has observed that due to the general resurgence in Asia – the emerging and developing economies are further ahead on the road of recovery. However, the report has warned that complacency must be avoided as the pace of recovery is expected to be slow and cannot create employment in the near future, therefore leading to a significant increase in poverty in a number of developing countries.

E. Who has done what?

While presenting past year's report (October 2008-October 2009) on global trade, Mr. Pascal Lamy, Director-General of the WTO, in his annual report (WTO, 2009) to the Trade Policy Review Body (TPRB) stated:

"Although there have been instances of slippage, in general terms, the world economy is about as open for trade today as it was before the crisis started. New trade restrictions bore no responsibility for provoking the crisis, nor can they be claimed to have played more than a limited role in aggravating it at the global level."

The report (WTO, 2009), issued under the Director-General's own responsibility, further said that as recorded in previous reports to TPRB during the same year, there has been trade policy slippage, including most of the G20 countries. An early response to the effects of the crisis in some countries was to increase tariffs and non-tariff barriers on certain imports. By mid-year, export subsidies on dairy products was re-instated by the European Union, Switzerland and the United States, and limits to state purchases of agricultural products were removed in the European Union. Increased state aid was being channeled by the developed countries to certain service sectors and manufacturing industries. An increase in the initiation of trade remedy investigations, particularly by emerging economies in the

case of antidumping and safeguard measures, and by developed countries in the case of countervailing measures were observed during the period.

On the topic of the various large financial and fiscal stimulus programmes, the WTO report states that these programmes were introduced by developed countries and some emerging economies, and have undoubtedly had important trade effects. Such large injections of public money into the productive sectors of the economy through state aids and subsidies, and of government influence over how it is spent, clearly have the potential to discriminate in favour of domestic producers and to distort international competition. Specific features of some of the stimulus programmes have caused particular concern. In particular, it has pointed out that "Buy Local" requirements (and their "Hire/Invest/Lend Local" counterparts) have reportedly been attached, officially or unofficially, to some programmes, although by no means all, as was shown by the inclusion of foreign banks in some of the financial rescue packages and by the car-scrapping schemes introduced by several countries in mid-year to boost demand for new automobiles. Noting that many WTO Members have requested a more in-depth analysis of the trade effects of these stimulus programmes, the report stressed that very few of the details of these stimulus programmes have been notified to WTO, so there is limited reliable information available on how they are being implemented. Also, the exceptional economic circumstances in which the programmes were introduced means that there is no general model to analyse the trade effects of their components parts in isolation from the broad macro-economic effects of the programmes themselves.

The report while highlighting the main dangers stated that the incremental build-up of trade restrictions and their continuance must be avoided. The report has pointed out that even if each restriction is taken on its own it may appear to have had only a slight effect on trade, as they accumulate they will undercut the effectiveness of policies to boost aggregate demand and restore sustained growth globally. The second danger relates to the long periodicity of trade restricting and distorting measures. If they are not removed within fixed timeframes the special economic interests developed will make it more difficult for these measures to be removed.

The report recommended that an important step that WTO Members can take now is to devise and announce exit strategies to remove trade restrictions and production subsidies that they have introduced temporarily to counteract the effects of the crisis, and start implementing those strategies as soon as domestic economic recovery takes hold.

The report cited one study (by the International Food Policy Research Institute), produced shortly after the crisis began, that pointed out the extent to which Members could raise their tariffs without breaching their WTO bindings and concluded that, if all of them were to do so, the average global rate of duty would double and the value of global trade would be cut by 8 per cent. It is therefore suggested that closing the gap between bound and applied rates of tariffs and agricultural subsidies will make a major contribution to reinforcing the policy disciplines of WTO.

Unfortunately, the developing countries have liberalized their applied tariffs unilaterally over their bound rates and if they commit to bind them, these tariffs at lower rates will provide the export opportunity to the products from the developed world. As a result, any stimulus effects would be in developed countries. How the narrow gap between applied and bound tariffs in developing countries would stimulate the economies of the developing countries, who have been hit by the financial crisis created in the major developed countries,

has not been explained. Similarly since the developing countries do not have adequate domestic resources for stimulating their domestic economy (as was done by the developed countries), further pressure will be built on their domestic producers which have now started looking inward as an alternative.

There are several other agencies that have carried out extensive research on the actions taken by the WTO Members and their effects. As per the report published by the Global Trade Alert (Evenett, 2009) the following has been pointed out:

- Since November 2008, 280 initiatives were taken out of which 192 have tilted the playing field towards domestic commercial interests at the expense of foreigners or have discriminated between foreigners.
- The most depressing findings relate to G20 member's violations to their pledge to eschew protection. Out of their 172 such restrictive initiatives, 121 were found to tilt the playing field against foreign commercial interests, and 23 measures related to imposition of duties following anti-dumping, countervailing duties and safeguard investigations.
- Few products, economic sectors and jurisdictions have emerged unscathed by crisis-era protectionism: fewer than 5 per cent of product categories, 20 per cent of economic sectors and a tiny number of trading jurisdictions have yet to be affected by any beggar-thy-neighbour state measures.
- China is easily the most frequent target of blatantly protectionist measures, followed by the United States, Germany, France, Japan, Belgium and other large exporters from the European Union. Three of the top 5 nations to target Chinese commercial interests are other emerging markets (Indonesia, India and the Russian Federation.) Germany and Spain are in the top 5 too. Six European Union member States have taken five or more measures that harm Chinese commercial interests.
- In terms of the number of harmful measures implemented, tariff lines affected, sectors affected, or trading partners affected, Indonesia is always in the top 5 worst offending nations. On all four metrics, China and the Russian Federation are always in the top 10 worst offending nations. For three of the four indicators of harm, Germany and India are always in the top 10 worst offending nations.
- The Ukraine has the dubious distinction of raising trade barriers against the most tariff lines (60 per cent of all product categories.) Algeria takes the prize for affecting the most economic sectors; China for harming the most trading partners (163).
- The commerce-restricting measures of ten nations, including six industrialized countries (United Kingdom, United States, Germany, Spain, France and Poland), are estimated conservatively to have each harmed 100 or more of their trading partners.
- In the current global economic downturn bailouts have been found to cause harm twice as often as tariff increases, in stark contrast with the 1930s.

A summary of all the measures taken by all the countries is illustrated in table 1. It appears very clear that the agriculture sector is the most protected as the maximum number of measures have been taken. This is followed by textiles and apparel, and leather and leather products. Thus, it is very clear that most of the items that are of export interest to the developing countries have been kept under the more restricted regime. The developing countries have also taken restrictive measures, which may harm the export interest of other developing countries and perhaps more than the developed countries. Nonetheless, since the developing countries do not have such vast domestic resources they have not vigorously

pursued the agenda of “fiscal packages” or “buy local products”; thereby their markets are more open to their trading partners.

According to WTO (2009) which tracked import and export flows as crises evolved, it seems that China, Republic of Korea, Brazil and India have seen some signs of recovery in terms of trade growth (both imports and exports) since January 2009. In the case of the European Union, Japan and the United States, the trends are not that encouraging. The fact that it is, in case of the developing Asian nations, that the trends of trade are becoming better, shows their resilience to the global trade meltdown due to the economic crisis.

Table 1. Protectionist measures during the crisis

Rank, CPC code, and sector description	Number of Implemented measures affecting specified sector	Number of Discriminatory measures harming commercial interest in this sector	Number of countries responsible for discriminatory measures taken in this sector	Number of pending measures affecting specified sector
1. 81 (Financial intermediation services and auxiliary services thereof)	31	29	13	1
2. 21 (Meat, fish, fruit, veg. tc)	40	25	16	5
3. 44 (Special purpose machinery)	52	25	16	11
4. 01 (Products of agriculture)	40	22	17	7
5. 23 (Grain mill products)	39	22	40	7
6. 41 (Basic metals)	65	22	38	27
7. 27 (Textile articles other than apparel)	36	19	13	7
8. 34 (Basic chemicals)	54	19	12	20
9. 42 (Fabricated metal products)	49	19	13	18
10. 49 (Transport equipment)	50	19	13	16
11. 38 (Furniture; other transportable goods n.e.c.)	30	18	13	5
12. 47 (Radio television and communication equipment and apparatus)	29	18	10	6
13. 22 (Dairy products)	27	17	40	5
14. 28 (Knitted or crocheted fabrics; wearing apparel)	28	17	12	4
15. 43 (General purpose machinery)	33	17	11	7

Rank, CPC code, and sector description	Number of Implemented measures affecting specified sector	Number of Discriminatory measures harming commercial interest in this sector	Number of countries responsible for discriminatory measures taken in this sector	Number of pending measures affecting specified sector
16. 02 (Live animals and animal products)	25	16	41	4
17. 29 (Leather and leather products; footwear)	24	15	11	2
18. 36 (Rubber and plastics products)	28	15	13	7
19. 46 (Electrical machinery and apparatus)	23	14	10	4
20. 26 (Yarn and thread; woven and tufted textile fabrics)	33	12	9	10

Source: Global Trade Alert database, accessed in the fall, 2009.

F. Indian measures and trade: pre and post crisis

As has been observed earlier, India has also taken several measures after September 2008. It is however, very difficult to establish that these measures were imposed to protect the domestic industry due to the crisis or would have been imposed in the absence of the crisis as well. This is also true for several other developing nations. It would, however, be interesting to examine whether the number of measures imposed by India or by its trading partners were higher due to which Indian exports are affected.

The measures taken against India and those taken by India against its trading partners are shown in table 2.

Table 2. Measures against and by India

Statistics for Affected Trading Partner: India		
Statistic	All measures	All measures excluding trade defence measures
Number of measures in database affecting specified partner	119	106
Number of measures in database affecting specified partner classified (green)	17	15
Number of measures in database affecting specified partner classified (amber)	39	30
Number of measures in database affecting specified partner classified (red)	63	61
Number of implemented measures affecting specified partner	91	86
Number of pending measures likely to affect trading partner	28	20
Number of pending measures likely to harm trading partner, ie. classified (amber, red)	27	19
Number of jurisdictions imposing red measures on specified partner	48	48
Number of measures in database by specified jurisdiction	51	12
Number of measures in database by specified jurisdiction classified (green)	5	5
Number of measures in database by specified jurisdiction classified (amber)	35	2
Number of measures in database by specified jurisdiction classified (red)	11	5
Number of tariff lines affected by red measures implemented by specified jurisdiction	210	203
Number of sectors affected by red measures implemented by specified jurisdiction	14	13
Number of trading partners affected by red measures implemented by specified jurisdiction	141	140

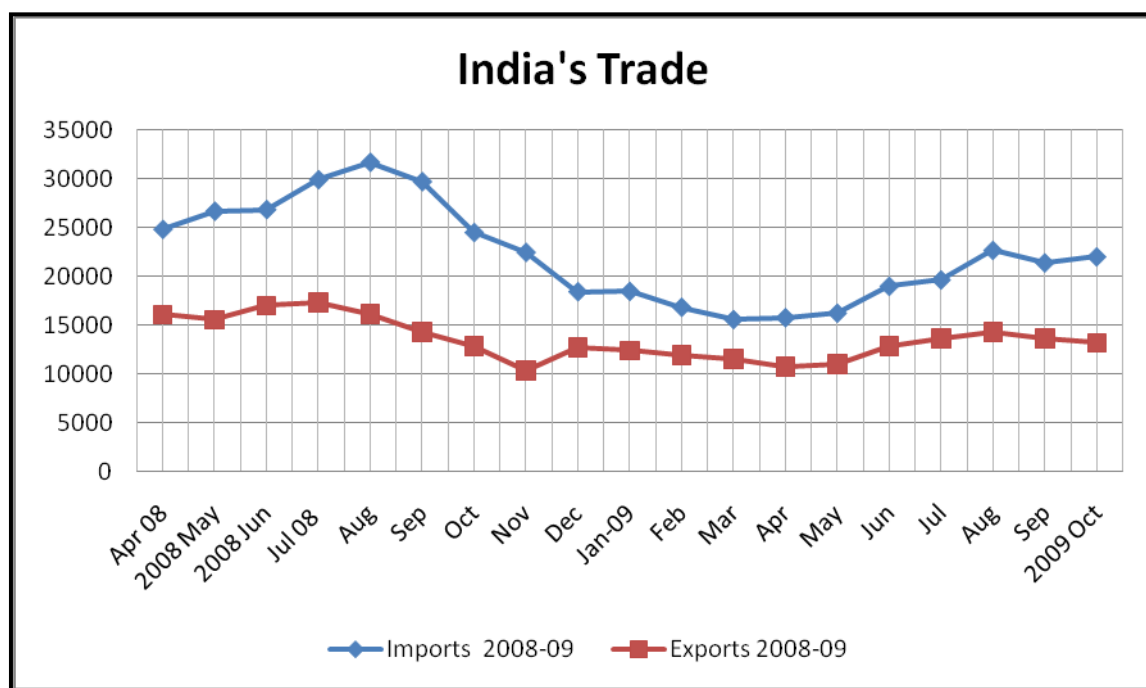
Source: Global Trade Alert database, accessed in the fall, 2009.

From table 2 it appears that the number of measures taken against India is more than what India has taken. Another interesting feature that emerges from the data relates to the fact that while there are 13 trade defense measures initiated against India; India has initiated 39 trade defense measure investigations against its trading partner. It is this category which has the highest score for India.

One should also need to take note of another related fact on this issue. In most of the countries, the trade defense measures are in the hands of agencies which perform quasi-judicial functions in the investigations and therefore if an industry petitions to those agencies, the investigations will need to be carried out. This category therefore does not indicate the actual governmental measures; rather it shows how the domestic industry has felt about itself during the period of recession. In this case, it is abundantly clear that the Indian industry was always apprehensive of a surge in imports due to a slowdown in world market.

The Indian exports were adversely affected due to the recessions; its imports saw a decline but these declines were not as drastic as the decline the country saw in its exports. From figure 1 it can be observed that while Indian exports and imports saw a decline at the same time in 2008, they started showing positive trends also at the same time i.e. from May 2009. However, the exports growth has seen a slower growth or recovery than its imports. This could be one of the causes for the industry to have petitioned for so many trade defense measure cases, especially during November 2008 and August 2009.

Figure 1. Exports and imports of India



Source: Central Statistics Office, Ministry of Statistics and Programme Implementation and the Department of Commerce, Ministry of Commerce and Industry, Government of India.

G. South-South trade: historical perspective

The Doha Round negotiations have once again reached a stalemate in 2009. One of the reasons of failure of the WTO talks emanate from the fact that the North (which is a common reference for the developed countries) is seeking access to the markets of the South,⁴⁵ but it is resisting liberalization of the labour markets, markets for labour intensive goods and services, and agriculture in which the South has an advantage. The South has emerged as an important player in the world economy as manifested in terms of global GDP, investment, savings, trade, foreign exchange or manufacturing capability. The developmental dimensions of the Doha Development Agenda are being marginalized in the negotiations and many countries have observed the lack of transparency in entire negotiations. The situation has been further aggravated by the global economic crisis where the developed countries have come out with several measures that makes it difficult for the developing countries to export.

The South-South exports saw a rise from 40 to 45⁴⁶ per cent of the South's total exports from 1995 to 2005, the share of South-North exports declined from 56 per cent to 48 per cent of the South's total exports during that same period (Ratna, 2009). UNCTAD has pointed out that the South-South trade flows reveal a pattern of a "hub-and-spoke" network, where Asia plays the role of the hub, being both the largest exporter and importer.⁴⁷ The intra-Asian trade accounted for about 90 per cent of total South-South trade and trade among East-Asian and South-East Asian countries accounted for more than half of South-South trade.

An empirical study has shown that the South-South trade can have the effect of lowering the price of intermediate imports and eventually allow southern exporters to serve international markets.⁴⁸ The South-South trade has also been enhanced due to the various bilateral, regional and interregional preferential trade agreements. Developing countries in different regions have not only established their own schemes of regional economic integration such as MERCOSUR, ASEAN FTA, SAFTA, CARICOM, COMESA, SACU etc. but interregional integration are also taking shape in the form of IBSA (India-Brazil-South Africa), India-MERCOSUR, and Asian-African Sub-Regional Organisations Conference (AASROC). The Global System of Trade Preference (GSTP) is another example of a South-South preferential trade arrangement which has a global perspective as it is open to all the developing countries and is serviced by UNCTAD.

The total imports from developing countries to the United States, New Zealand, Japan and Australia, as well as other developing countries in the Asia-Pacific region increased during the period of 1990 to 2006. Developing countries in Asia were the major beneficiaries

⁴⁵ The term "South" includes all developing countries, including LDCs, as such terms are defined by the United Nations. The United Nations created a Special Unit for South-South Cooperation (SU/SSC) in the late 1970s, which supported academic research and voluntary cooperative efforts between southern countries to promote South-South trade and investment. The United Nations General Assembly in 2003, formally opted to use the term South-South in describing cooperation among developing countries.

⁴⁶ This does not include the exports to the nations which are Economies in Transition.

⁴⁷ UNCTAD, Development and Globalization: Facts and Figures 2008 (Geneva, 2008).

⁴⁸ M. Fugazza and F. Robert-Nicoud, "Can South-South trade liberalization stimulate North-South trade?", *Journal of Economic Integration*, vol. 21, No. 2 (2006), pp. 62-90.

of the changing patterns due to increased exports from China, Republic of Korea and India. The imports of each of the countries increased from the developing countries during 1990-2006 (Ratna, 2009). There was a general decline in sourcing from the developed countries and this feature holds true for sourcing patterns of both the developed and developing countries. Another pattern that is noticeable is that the major beneficiaries were the developing countries of Asia (due to the increased exports of China, Republic of Korea and India).

Looking at their export pattern and comparing it with the markets (developing and developed countries) one would observe that only for Afghanistan, Maldives, Myanmar and Nepal's exports to the South have increased during 1990 to 2006, but the rest have seen a decline (table 3). It is worth noticing that for Cambodia the exports to the developed countries, especially the United States, has seen tremendous growth and there is a decline on its exports to the South. Another significant feature is that of all their exports to the South, a major chunk of their exports have landed in the Asian markets only.

Table 3. Export pattern of Asian LDCs

Exporting country	Year	Exports in \$US million	% of exports to developed countries				% of exports to developing countries	
			Total	EU	United States	Japan	Total	East, South & South-East Asia
Afghanistan	1990	131	79.4	69	3.4	1.5	20.5	14.7
	2000	142	38.1	35.3	1.9	0.3	56.2	48.6
	2006	275	33.5	17.4	15.2	0.2	59.7	47.5
Bangladesh	1990	1671	76.7	36.9	30.5	3.9	19.7	11.9
	2000	5590	76	40.3	31.8	1.2	9.2	6
	2006	12740	78.1	46.8	25	1.1	9.2	6.3
Cambodia	1990	42	15	7.1	na	7.6	84.3	83.3
	2000	1123	88.4	20.6	65.9	1	10.7	10.6
	2006	3562	76.3	18.2	53.3	1	23.4	22.7
Lao People's Democratic Republic	1990	64	19.9	9.9	0.1	7.1	80.1	78.4
	2000	391	33.4	26.2	2.3	2.8	45.6	45.2
	2006	1130	15.2	10.5	0.7	1	64.3	64
Myanmar	1990	409	17.6	7	2.3	6.9	63.6	61.6
	2000	1980	47.2	16.7	22.4	5.5	42.6	42
	2006	4376	13.2	7.4	na	5.2	79.7	78.1
Maldives	1990	52	61.5	26.2	24.2	8.5	38.5	38.5
	2000	76	67.2	18.6	44.2	4.2	32.8	32.8
	2006	167	42.4	30.2	1.3	10.3	57.6	49.1
Nepal	1990	211	85	53.8	23.4	0.8	15	14.8
	2000	721	53.7	23	27.5	1.4	44.7	44.5
	2006	830	26.7	12.1	11.7	1	70.8	69.8
Papua New Guinea	1990	1266	82	24.1	2.4	27.8	17.6	17.1
	2000	2814	59.5	10.2	1.3	11.3	14.2	13.9
	2006	6268	47.7	7.3	1.3	8.2	13.4	13

Source: UNCTAD, Handbook of Statistics 2008 (Geneva, 2008).

H. South-South trade: viability in the present economic crisis

As has been stated earlier, while historically the South-South trade has increased, even during the crisis, it has shown greater resilience post crisis. The present trends of trade show that most G20 economies saw exports and imports growing in the latest month over the previous one, including the United States, the European Union (27), Japan, China, India, Turkey and South Africa. On the other hand, while Mexico registered small declines in both exports and imports; Brazil and the Republic of Korea saw their exports rise in June and then become flat in July 2009. The newly industrialized economies of Asia have seen their trade flows rebound more strongly than developed economies, suggesting that much of their recent growth could be due to intra-regional trade. The Republic of Korea's exports to the world grew more slowly in July (22 per cent) than its exports to Asia (26 per cent) or to China (27 per cent). The fact that China's imports grew twice as fast as its exports in July (16 per cent versus 8 per cent), also suggests that intra-Asian trade could be benefiting from the country's fiscal stimulus. In addition, China and India have maintained a high rate of GDP growth, showing the strength of their economies.

It is therefore important that the developing countries in the Asia-Pacific region start looking at the markets of their neighbours, especially China and India, for diversifying their exports. It would be sensible to use the number of the preferential trade agreements in the region for the expansion of trade. The utilization levels of PTA preferences are deemed to be higher in the Asia-Pacific region, reaching about 25 per cent for members of the Association of Southeast Asian Nations (ASEAN), 35 per cent for the Asia-Pacific Trade Agreement (APTA) and 15 to 20 per cent for the South Asian Free Trade Area (SAFTA) (Mikic and Ramjoué, 2009).

The conclusion of the Doha Round negotiations by 2010 as stipulated appears bleak as countries have a long way to go, which means that the next trade reform process is likely to be delayed. Even though there are several intergovernmental agencies which are now forecasting early recovery, it appears that the spill-over effects will remain until 2011. When the non-tariff measures that have been imposed by several countries post-crisis are going to be removed is another *yaksha* question. Therefore, the only way for the developing countries to expand exports, at this point, is to look at the markets of other developing countries, either on a most favoured nation basis or the preferential trade agreements that are South-South in nature.

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Chapter IV

The rise of non-tariff protectionism and recovery from the global economic crisis – the Indonesian story

By Tulus T.H. Tambunan

Introduction

Most, if not all, Asian countries are currently affected by the world's most serious recession since the 1930s. The current outlook for the region indicates that economic growth in the region as a whole will drop to only 1.4 per cent in 2009, down sharply from 5.1 per cent in 2008 and from the very rapid growth of 8 per cent achieved in 2007 (IMF, 2009). The current global economic crisis is impacting the region through various channels, including exports, foreign direct investment and remittances. Consequently, the impact on Asia's labour markets, workers and families has been widespread. Retrenchments are mounting in many export-oriented manufacturing industries across the region, while working time is falling along with increasing downward pressure on wages. In response, millions of workers are migrating back to rural areas and shifting to informal and vulnerable employment.

A primary concern is also the impact on household poverty. Unlike the 1997-1998 Asian financial crisis, this global recession may have less of an impact on the extreme poor (i.e. those living under \$US 1.25 per day international poverty line) and a greater effect on those vulnerable to poverty. In particular, this is the case for the workers and households who have risen just barely above the poverty line in recent years due to sustained economic growth, enhanced market integration and new formal employment opportunities. This population is now particularly vulnerable to falling back into poverty as a result of the 2008-2009 global economic crisis. This crisis context has significant implications for the labour market and social protection policies.

Furthermore, the export industries in Asia, such as the textile and furniture industries in Indonesia are closely connected in regional and global value chains and through trade and production systems in countries such as Japan, the United States and key European countries such as Germany, France and the United Kingdom. Within Asia, many of these export industries are subcontracting production to small and medium-sized enterprises (SMEs). In addition, workers in these industries are served by many informal and formal establishments such as transportation, and food and catering, among others. However, information on the challenges to enterprises and workers in the value chain (and for other suppliers and service providers) is very limited, especially regarding employment and social protection impacts and challenges. In efforts to cope with the negative effects of the crisis on their economies, policymakers in many Asian countries, or even in many other non-Asian countries, have opted for trade restrictions, often taking advantage of the flexibility on the use of contingent measures in multilateral trading rules.

This paper is about the Indonesian experience with the 2008-2009 global economic crisis and how the Indonesian Government responded, especially in trade areas, to the crisis. Specifically, the paper aims to answer the following two research questions: (1) has the Indonesian economy been seriously affected by the 2008-2009 crisis similar to what

happened during the 1997-1998 Asian financial crisis; (2) has the Indonesian Government launched protectionism measures, in particular non-tariff barriers, to cope with the crisis?

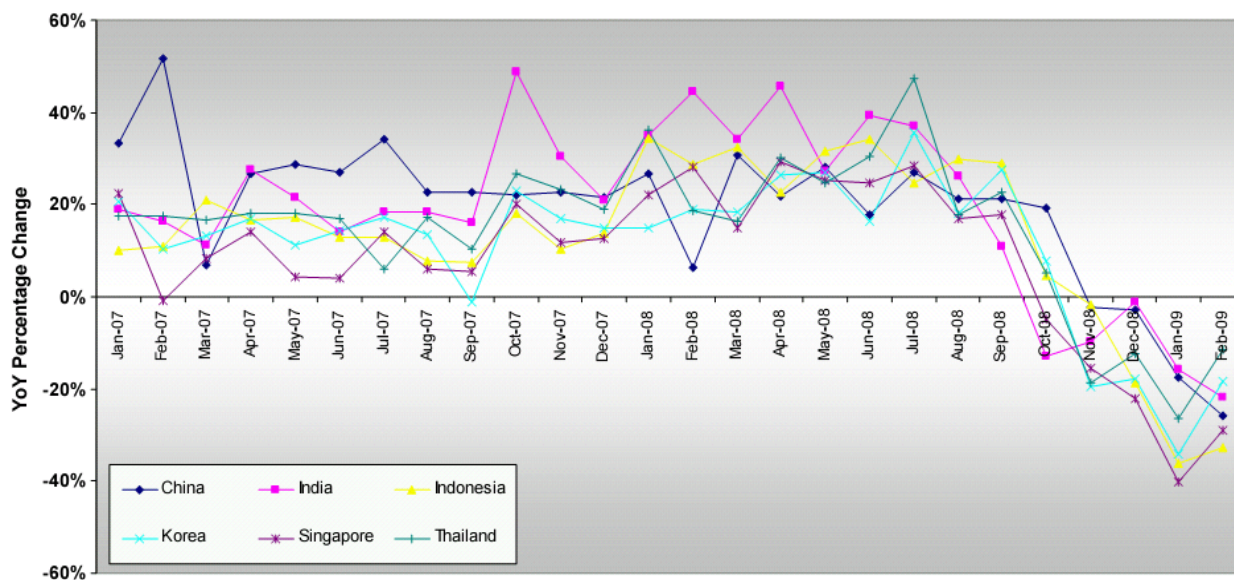
A. The Indonesian economy during the crisis

The 2008-2009 global economic crisis, which started in 2007 as a financial crisis in the United States and spread worldwide, has been called by many economists the most serious economic or financial crisis since the great depression in the 1930s. Its global effects have been characterized by the failure of key businesses, declines in consumer wealth estimated in the trillions of United States dollars, substantial financial commitments incurred by Governments, and a significant decline in economic activity. The crisis rapidly developed and spread into a global economic shock, resulting in a number of bank failures, declines in various stock indexes, and large reductions in the market value of equities and commodities. Many countries, including those in Asia, have been proposed, with varying weight assigned by experts, both market-based and regulatory solutions, in order to mitigate the negative impacts of the crisis on their economies.

Up until September 2008, Indonesia's economy was still showing some resilience towards the crisis. However, during the October-December 2008 period, the country's economy experienced deteriorating economic performance at an unprecedented speed (figure 1). Overall, growth rates for 2008 were 6.2 per cent, a slight decline from 6.3 per cent in 2007. By the end of 2008, the Coordinating Ministry for Economic Affairs, predicted that the Indonesian economy will grow only 5 per cent in 2009. But, recently, the prediction has been revised to even lower at 4.5-5.5 per cent with a base case at 5 per cent (figure 2). In 2010, economic growth is expected to recover to the 5.5-6.0 per cent range. However, table 1 shows that the economic growth projections by a range of international institutions and investment banks do not differ widely from the government forecasts.

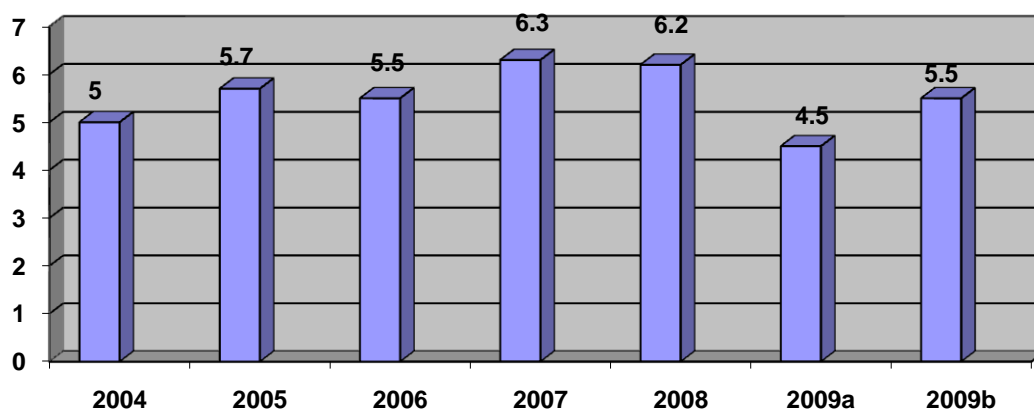
It was very different during the 1997-1998 Asian financial crisis. When the crisis hit Indonesia, the country's economy plunged into a deep recession in 1998 with overall growth at minus 13.7 per cent, which was very serious compared with a less than 5 per cent contraction during the difficult times in the 1960s. The worst declines have been in the construction sector (-39.8 per cent), financial sector (-26.7 per cent), trade, and hotel and restaurant sectors (-18.9 per cent). Other sectors, which had large contractions, were manufacturing (-12.9 per cent) and transport and communication (-12.8 per cent). Mining and other service sectors experienced a contraction of about 4.5 per cent. The agricultural and utility sectors still experienced positive growth at about 0.2 per cent and 3.7 per cent, respectively (Feridhanusetyawan and others, 2000). The crisis has led the income per capita to drop significantly (figure 3).

Figure 1. Economic quarterly growth rate around the 2008-2009 global financial crisis in selected Asian countries (per cent)



Sources: For Indonesia: data obtained from the Coordinating Ministry for Economic Affairs and Badan Pusat Statistik (BPS – Statistics Indonesia); for other countries, ESCAP Secretariat, Bangkok, 2009.

Figure 2. Indonesian annual economic growth around the 2008-2009 global financial crisis (per cent)



Source: Data obtained from the Coordinating Ministry for Economic Affairs, 2009.

During this global financial crisis, the Indonesian Government launched a fiscal stimulus package to maintain private consumption levels to cushion the impact of the 2008/2009 crisis, as domestic consumption has contributed a significant share (65 per cent) of Indonesia's gross domestic product (GDP). Policies to keep financial market stability are also being launched, particularly to keep inflationary pressures down and prevent depleted domestic purchasing power. On the trade side, the deterioration occurred earlier as both exports and imports started to decline already in the first month of the second half of 2008. Export growth was only at around 1.82 per cent, the slowest since 1986. However, in recent months, exports as well as imports started to recover, and exports grew faster than the growth rate of imports (figure 4).

In June 2009, the World Bank issued a report on the current situation of the Indonesian economy in relation to the current global financial crisis (World Bank, 2009). The report comes with the following important conclusions:

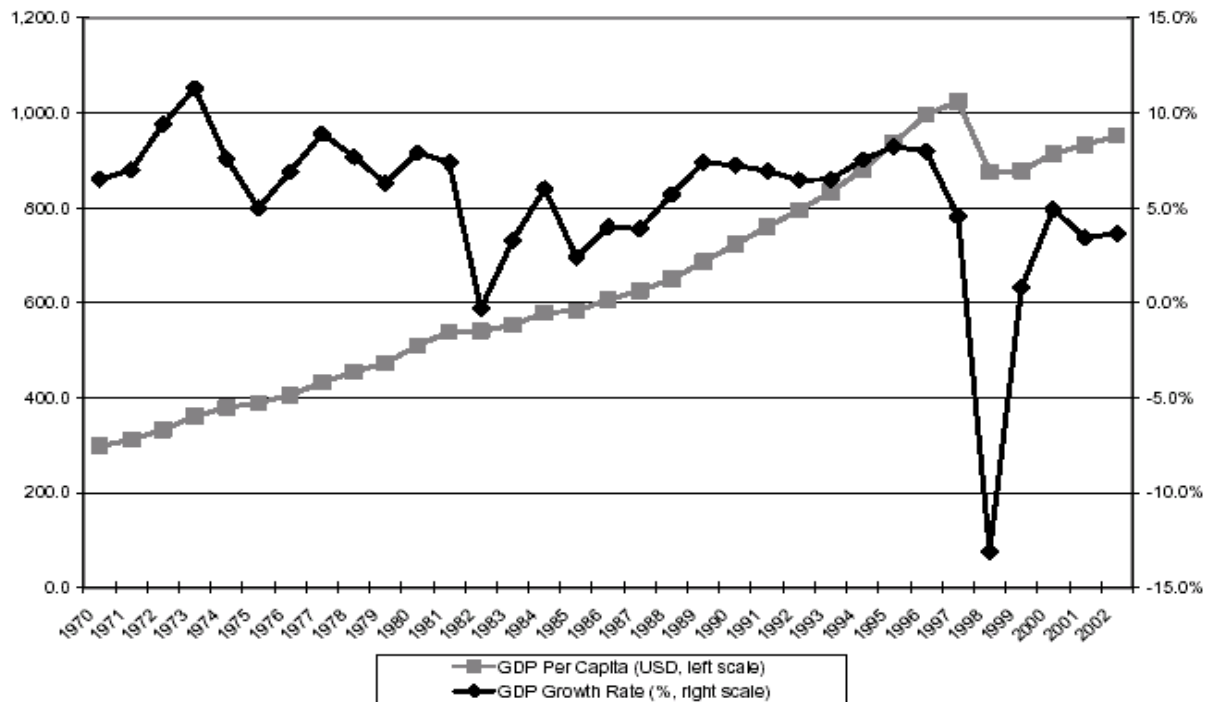
- The global economic downturn has impacted Indonesia's growth, however, impacts occurred later and by less than elsewhere.
- Indonesia's financial markets were affected by the global financial turmoil, but have lately staged a strong recovery.
- The banking sector remains in good health, but new lending has been cut.
- Lower global commodity prices and global demand compressions have hit Indonesia's exports and imports, as well as firms' profitability, leading to cuts in investment, employment, and consumer demand.
- Consumer prices have stabilized, allowing Bank Indonesia to loosen monetary policy.
- Despite the global downturn, Indonesia's external position remains sound, the country's significant external financing obligations are being met, and reserves have risen slightly.
- Indonesia's public finances are strong, allowing policy makers to quickly move to offset the global downturn's effects on Indonesia.
- The global downturn will continue to slow Indonesia's growth and limit gains on social indicators, particularly poverty reduction.

Table 1. Growth projection for the Indonesian economy, 2008-2009

Institution	2008	2009
ADB	6.0	4.4
World Bank	6.0	4.5
IMF	6.0	4.5
The Economist	6.0	3.3
Deutsche Bank	6.0	4.5
Danamon	6.2	5.0
Danareksa Investment	6.2	5.8
Bank Indonesia	6.2	4.9
The Indonesian Government	6.2	4.5-5.5

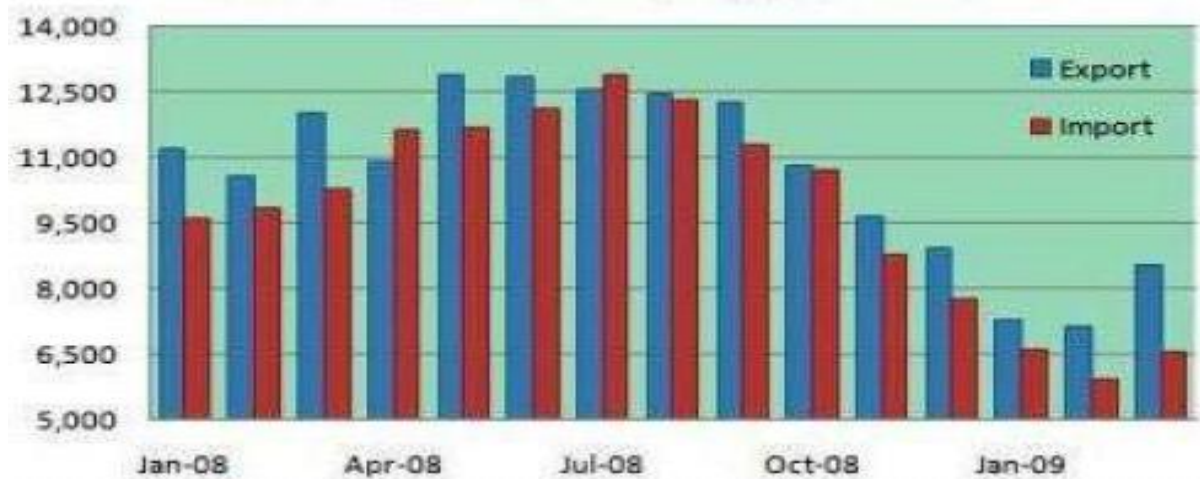
Source: Data obtained from the Coordinating Ministry for Economic Affairs, 2009.

Figure 3. Indonesian GDP growth rate and GDP per capita around the 1997-1998 Asian financial crisis



Source: Badan Pusat Statistik (BPS – Statistics Indonesia).

Figure 4. Export and imports, based on official data, 2008-2009
(in \$US millions)



Source: Data from the Coordinating Ministry for Economic Affairs, 2009.

Further, preliminary figures on growth rate of GDP quarter to quarter by origin of sector, shows that in 2009 output from the manufacturing industry will experience a negative growth at 0.4 per cent and within the sector, output from non-oil and gas manufacturing industries are expected to decline by 0.2 per cent. In this subsector, within groups of industry, output from wood and wood product industries are expected also to experience a negative growth at 3.5 per cent (table 2). This prediction is in line with the Minister of Industry, who has recently stated that many export oriented sub-sectors of the manufacturing industry such as vegetable oils and fats, spinning, textiles, refined petroleum, paper and paper products, chemical and chemical products, rubber and plastics products, non-iron metal products, machinery and equipment, and furniture are among the industries which are most vulnerable to external shock. Indeed many reports of recent labor lay-offs are coming mainly from those manufacturing sub-sectors (Djaja, 2009).⁴⁹

There are some reasons why the Indonesian economy so far has been less affected by the current crisis. Firstly, from a regional perspective, the Indonesian economy is performing well; it has charted one of the best growth rates in Asia after the 1997-1998 Asian financial crisis up to 2008, particularly during the period 2005-2008. Secondly, the banking sector remains in good health (which was not the case in years before the 1997/98 Asian economic crisis). Thirdly, compared with some Asian countries, Indonesia is relatively a “closed economy”. The share of Indonesia’s exports to GDP was 29.4 per cent in 2007. The figure in the next three quarters of 2008 was 30.0 per cent on the average. Using the Input-output table 2005, however, it is evident that about 85 per cent of goods and services produced by the Indonesian economy were used domestically, while only about 15 per cent went to foreign buyers. This indicates that Indonesia is not so strongly integrated with the rest of the world, at least from an export point of view. With such low exports, a sudden drop in world income and hence in world demand for Indonesian exports will not significantly affect domestic production (Djaja, 2009).

⁴⁹ The official data from the Department of Manpower and Transmigration show that per 12 December 2008 the number of labour that has already been laid-off was 17,488 and the number of labour that has “been planned to be laid-off” was 23,927, therefore all together totaling 41,415. While the number of labour that was already at home was 6,597 and the number of labour that had planned to be home was 19,091, all together totaling 25,688. Jakarta recorded the highest with 14,268 laid-off workers and 9,757 workers that had been planned to be laid off, all coming from about 60 companies in the field of manufacturing industry, such as textile and garments, wood industry, and metal and steel industry. Jakarta is followed by the Riau province with 837 laid-off workers and 8,720 workers that had been planned to be laid-off, mainly coming from the pulp and paper industry. The provinces in Kalimantan have also had a high record for labor that was already at home, and mainly were coming from estate plantation, wood and wood industries. There is a strong indication recently that a massive return of workers to Java as a result of falling commodity prices will then force plantation companies in Kalimantan and Sumatra to scale down their work force. The other source of labor’s laid-off were from the food and beverages, electronics, and construction industries (Djaja, 2009). Of course, one cannot be quite sure whether the lay-offs were executed due to the current crisis (short order, slow in demand, etc.) or the plan to lay-off the labour was long before the crisis hit Indonesia, but the execution is happening now.

Table 2. Preliminary figures on growth rate of GDP quarter to quarter, by origin of sector, 2009

Sectoral	Growth rate (per cent)
Agriculture, livestock, forestry and fishery	19.3
Mining and quarrying	-0.5
Manufacturing industry	-0.4
Oil and gas	-1.7
Non-oil and gas	-0.2
- Food, beverages and tobacco industries	1.2
- Textile, leather products and footwear industries	3.5
- Wood and other products industries	-3.5
- Paper and printing products industries	10.2
- Fertilizers, chemical and rubber products industries	0.0
- Cement, and non-metallic quarr products industries	-5.1
- Iron and steel basic metal industries	2.9
- Transport equip., machinery & apparatus industries	-3.4
- Other manufacturing products	2.3
Electricity, gas and water supply	3.6
Construction	-1.2
Trade, hotel and restaurants	-4.8
Transport and communication	2.1
Finance, real estate and business services	0.8
Services	1.3

Source: Badan Pusat Statistik (BPS – Statistics Indonesia), 2009 (selected tables, www.BPS.go.id).

B. Effects on Indonesian exports

1. Theoretical consideration

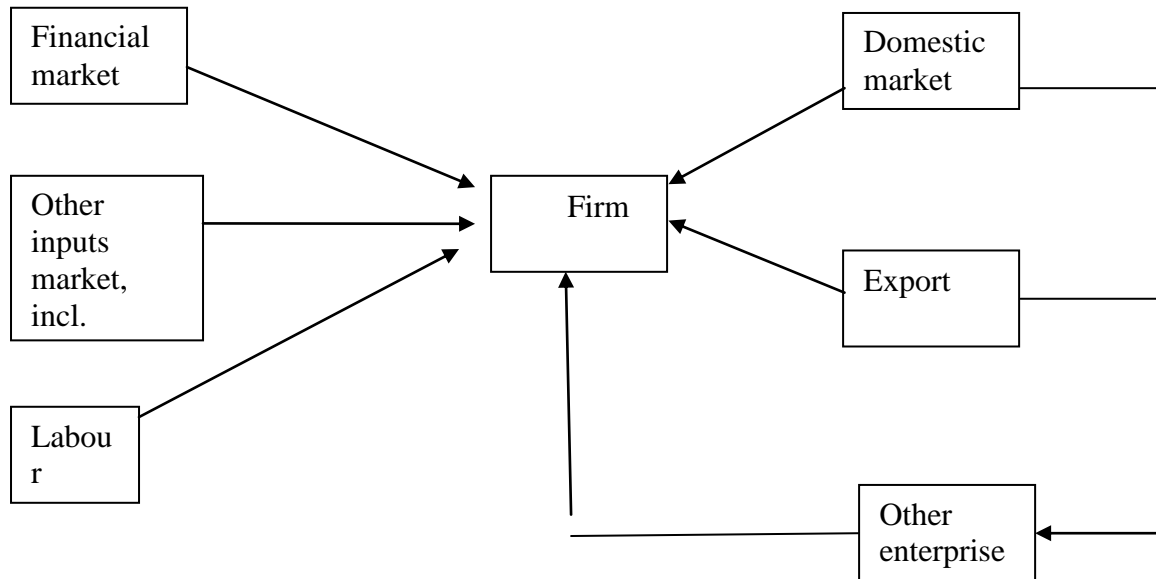
The effects of a global or regional economic crisis on Indonesia's exports, depends on the type of crisis present. If it is a national currency crisis, such as what happened in 1997/98 (e.g. huge depreciation of the rupiah against the United State dollar), theoretically, it will push up the price competitiveness of Indonesian made goods, and hence Indonesian export will increase, by assuming that other export determinant factors (i.e. production capacity, availability of credits, production costs) are constant. If it is a global economic crisis like the 2008-2009 crisis, which led to a decline in world income, it will lead to a reduction in Indonesian export. But, again, it depends on the degree of openness and integration of the Indonesian economy with the world.

Figure 5. A theoretical framework of the impact of an economic crisis on

Individual firm subcontracting

Supply-side effects

Demand-side effects



From the individual exporting firms, theoretically, each firm will be affected by a change in economic condition or an economic crisis such as the 2008-2009 crisis, either initially through their demand-side or supply-side, or both at the same time. The effect can be positive or negative. As illustrated in figure 5, the supply-side effects are the effects that occur via the markets for factors of production and other inputs; while, the demand-side effects occur via the output (final and intermediate) markets (Tambunan, 1998).

The negative supply-side effects occur mainly from two sources. First, financial market effects: due to tight national liquidity, either as a direct policy response to a crisis or because of lack of money reserve in banks (thus no new loans are given) the interest rate increases leading to higher borrowing costs, and thus less demand for credit from enterprises. No credits from banks and no alternative sources of capital mean production declines or operation stoppages.

Humphrey (2009) analysis three of the most important types of trade finance and potential impacts for each of them in an economic crisis, i.e. letter of credit (LC), domestic bank credit, and trade credit (table 3). LC is specifically designed to facilitate trade. The function of this mechanism is both to provide finance and provide assurances about payment to the exporting firms. If an irrevocable LC is issued, the exporter receives payment when it provides the specified documents to the advising/confirming bank. However, LC requires confidence and liquidity to be maintained at various points along the chain of payment from the importer, to the issuing bank, to the advising/confirming bank and to the exporter. In Indonesia during the 1997-1998 Asian financial crisis, many national private banks were closed down and many state-owned banks were merged, reflecting the unhealthy condition of the national banking system in the country at that time. As a result, foreign countries (exporters) did not accept the LCs issued by Indonesian banks. This situation is explained by Auboin and Meier-Ewert (2003), quoted by Humphrey (2009, p. 6): “‘Cross-border’ international trade finance for imports became a particular problem at the peak of the crisis in

Table 3. Trade finance and potential impacts of an economic crisis

Type of trade finance	Potential impact of an economic crisis
LC Importers use LCs issued by their banks (the issuing bank) as a means of assuring exporters that they will be paid. If the exporter submits the required documentation (invoices, bills of lading, etc.) to its bank (the advising or confirming bank), payment is made to the exporter.	The creditworthiness of the importer is undermined in the crisis and the issuing bank will not assume the risk. The issuing bank does not have sufficient funds to extend credit to the importer. The advising/confirming bank does not have confidence in the issuing bank. Trade finance institutions reduce their overall exposure or exposure to particular countries during a financial crisis, reducing trade credit across the board to firms and banks in those countries.
Domestic bank credit Domestic banks provide credit to exporters to cover pre-shipment or post-shipment costs. Such funding is similar to provision of working capital in general, although it may be less risky to the extent that it is loaned against specific purchases and assets.	Financial outflows reduce liquidity in the domestic banking system. International banks operating in the domestic market reduce credit in order to cut the exposure of parent banks. Shortages of foreign currency prevent banks lending the foreign exchange needed for import of inputs or export freight charges.
Trade credit Companies extend credit to each other when buyers delay or advance payments to suppliers. This is called "trade credit", even within the domestic market. "Open account" trade involves importers paying invoices once goods are received. Equally, importers can extend credit to exporters if they pay for goods (all or in part) in advance.	General shortage of credit in domestic markets prevents importers and/or exporters extending credit to each other. As credit become scarce, not only do banks reduce lending to their customers, but more creditworthy firms reduce lending to less creditworthy ones as their own access to finance is reduced. Firms reduce credit extended to suppliers or buyers because of the increased risk of non-repayment by these firms as more companies get into financial difficulties.

Source: Humphrey (2009), table 1, p. 3.

Indonesia, where international banks reportedly refused to confirm or underwrite LCs opened by local banks because of a general loss of confidence in the local banking system. Given the high import content of exports (over 40 per cent in the manufacturing sector), Indonesia's growth of exports was seriously affected by the difficulty of financing imported raw materials, spare parts and capital equipment used in its export sectors".

Domestic bank credit and trade credit are extensions of credit facilities that operate in many countries, including Indonesia. Firms may use domestic bank lending to finance both working capital and capital investment. Such credit can be used to facilitate trade. Similarly, inter-firm (trade) credit is widely used in the domestic economy. As explained in Humphrey (2009), when contracts specify, for example, that buyers have a period in which to pay invoices for goods received, typically, 30, 60 or 90 days, the supplier is, in effect, extended credit for that period. Firms that have well-developed trading relationships may adopt the same practice. To the extent that sophisticated global value chains linking together firms in different countries often involve repeat transactions and long-term relationships, it is not uncommon for trade to be conducted on these terms.

Furthermore, the changes in inputs market are also very relevant. The significant increase in the prices of raw materials, either because of the depreciation of national currency against the United States dollar (for imported items) or the decline in domestic production of such inputs will change the price competitiveness of local producers.

From the demand-side, there are three major sources of demand for firms' products: (1) community (individual consumers), (2) business, and (3) government (e.g. departments). The first source represents the final consumption demand in domestic and export markets; while, the latter two sources comprise the intermediate demands. With respect to the second and the third sources of demand, the stability of demand for domestically made products during a crisis depends much on the survival capability of production linkages or inter-firm business linkages (i.e. private intermediate demand)⁵⁰ and the government financial conditions which affect government expenditures (i.e. public intermediate demand), respectively.

With respect to the final consumption demand, it is the primary source for the firms' products in Indonesia, generated from the incomes of domestic (rural and urban) and to a smaller extent, foreign consumers. In this respect, whether the impact of the current crisis on firms will be negative or positive, it will depend on the relationship between the types of goods produced by firms and the level of consumers' incomes. According to the "Engels' Law", if the goods produced by firms are inferior (or non-inferior) or have negative (or positive and high) income elasticity, then the increase of income will lead to the decline (or increase) of demand for such goods.

Finally, with respect to the export market, if it is a national currency crisis (depreciation), such as in 1997-1998, theoretically, it will push up the price competitiveness of domestic made goods, and hence exports will increase. The crisis this time was originated from a big financial crisis in the United States and was differed to many other countries such as Japan and Europe. As they are the most important destinations for many Indonesian goods, the economic recession in these countries will lead to a significant drop in Indonesian exports to countries.

2. Some evidence from one of Indonesian key exported goods: furniture

So far, information from many sources, including public media and statements given by officials, suggest that the export market is the main demand-side channel through which the 2008-2009 crisis is affecting the Indonesian economy. This view is also supported by Griffith-Jones and Ocampo's assessment of impacts of the current crisis on developing countries (Griffith-Jones and Ocampo, 2009). They also argue that the main channel of transmission of the crisis to exporters of manufactures and services in these countries is through a decline in trade volumes.⁵¹ To understand this phenomenon, one needs to look back

⁵⁰ In Indonesia before the 1997-1998 crisis (before the depreciation of more than 100 per cent of the rupiah), many domestic large enterprises were used to import their all required inputs. But, during the crisis period, many of these large enterprises turned back to domestic markets for such inputs. This can mean a new demand for domestic SMEs. Unfortunately, there is no data on this new demand during the 1997-1998 crisis. In other words, the 1997-1998 crisis had created a big opportunity for SMEs through a "production linkages effect".

⁵¹ According to them, the current crisis was driven by the reversal of the three positive "shocks" that developing countries experienced during the recent boom period: rapid growth

to world trade development in recent decades, which has shown two important characteristics. First of all, it has tended to expand more rapidly than world production, a process that has been accompanied by a rapid diversification in the trade structure. Thus, during the boom in 2003-2006, world trade grew at an annual rate of 9.3 per cent, more than twice the rate of growth of world output (3.8 per cent). Second, these rates of growth have been highly elastic to world output through the business cycle and have, therefore, been more volatile than world production.

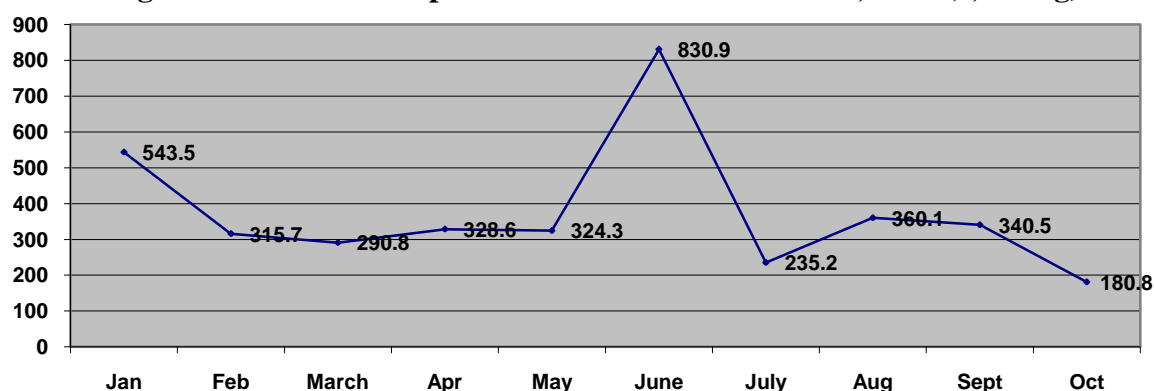
A major implication of this characteristic is that, although trade enhances world business cycle upswings, it equally tends to multiply downswings. Trade volumes have contracted once in 2001 and they will again contract in 2009 as a result of the current crisis. Based on Griffith-Jones and Ocampo's analysis, the growth of world trade volume experienced a strong slowdown since mid-2007, to a rate of around 2 per cent by September 2008 (Griffith-Jones and Ocampo, 2009). This rate turned negative in November and December 2008 as China, the most dynamic world exporter, also experienced negative export growth and even sharper negative import growth in those months.

There is some evidence showing that the furniture industry has been hit too by the crisis mainly through this particular channel. Wood and rattan furniture is among Indonesia's key exported manufactured goods. The Indonesian Rattan Furniture and Craft Producers Association (AMKRI) has recently announced that due to the decline in foreign demand for Indonesian furniture, the industry may have to lay off nearly 35,000 workers in the early part of 2009. In May 2009, as reported on Kompas (Tuesday, 11 August 2009), the Chairman of the Indonesian Furniture Industry and Handicraft Association (ASMINDO), Mr. Ambar P. Tjahyono, announced that the export value of Indonesian furniture to a number of countries has declined by 30 per cent in the second quarter of 2009, compared with 2008 at \$US 2.65 million. In the first quarter of 2009 the realized Indonesian export value of furniture has already dropped by 35 per cent, compared with the same period in 2008. According to ASMINDO, there is also some decline for furniture in the domestic market, but, it does not mention the percentage of the decline.

The Indonesian Central Statistics Agency (Badan Pusat Statistics, BPS – Statistics Indonesia) also reported a decline of 28 per cent in timber exports for the first quarter of 2009 in comparison with the same quarter of 2008. The Agency reported timber product exports worth \$US 559.7 million for the first quarter of 2009. While, the Jakarta Globe reported a sharp decline of 23.2 per cent in the export volume of wooden furniture, doors and window frames. Similarly, the value of exports declined by 15.8 per cent when compared with the export value of the first quarter of 2008 (\$US 375.8 million).

ASMINDO Secretariat has tried to examine the impact of the crisis on rattan furniture. It shows that at the national level, during 2008 export volume of rattan furniture has declined significantly since June (figure 6). For the study, it conducted a survey in May 2009 in a number of key clusters of furniture industry in Indonesia, i.e. Trangsan, Luwang, Gatak, and Sukoharjo (all in Java Island). It finds that since May 2008: (i) total output containers declined from more or less 360 to 100 containers on average per month; (ii) total producers/exporters dropped from more or less 50 units to 30 units (small and large); (iii) total micro enterprises (or home industries) also declined from more or less 510 units to 250

of remittances, capital flows and trade. For more discussion, see Griffith-Jones and Ocampo (2009).

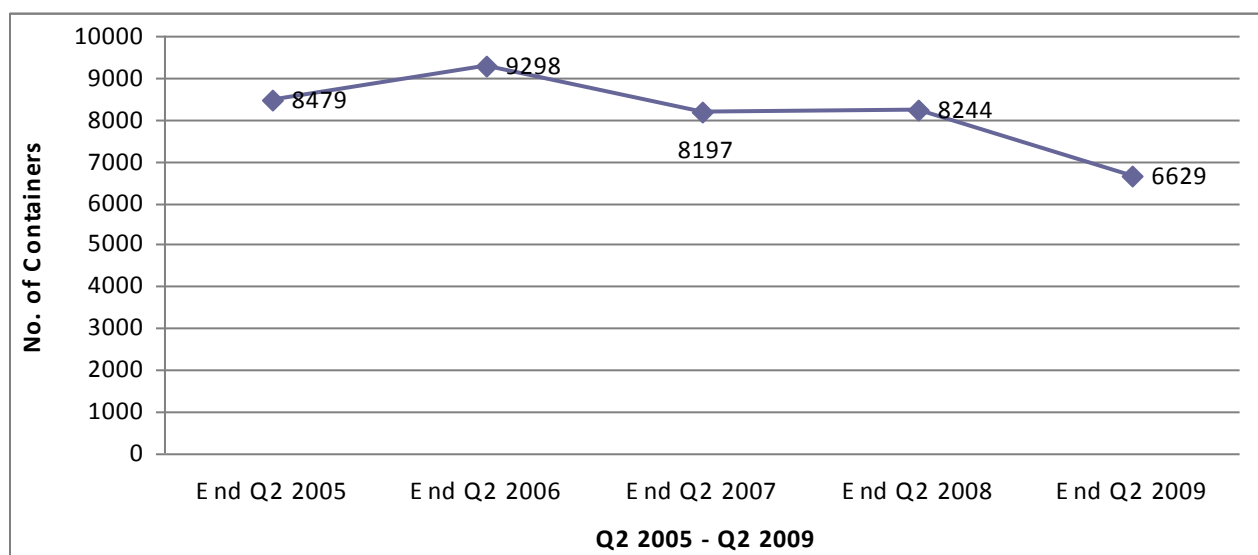
Figure 6. Indonesian export volume of rattan furniture, 2008 (1,000 kg)

Source: Data obtained from ASMINDO Secretariat, 2009.

units; (iv) total employment went down from around 7,600 workers to 3,000 workers; and (v) total sales of raw materials and intermediate inputs to the clusters also dropped significantly. According to the surveyed producers, the decline is mainly caused by the fall in demands in countries of their destination such as the United States and some countries in Europe. Without strong evidence, this may have a strong relation with the current global financial and economic crisis.

As found during the survey, of producers who are still in operation, many have to reduce their production volume. This negative impact of the current crisis is indeed expected since wood and rattan furniture is considered as a durable and non-essential product, which is sold on perceived rather than actual value. Consequently, demand is strongly affected by economic fluctuations: an economic downturn will substantially influence demand and purchases will be delayed (Andadari, 2008).

In Cirebon, another key cluster of the furniture industry in Indonesia, the picture is similar though the decline started earlier. According to Mr. Sumarca, the chairman of the Cirebon ASMINDO, the export of wood and rattan furniture has been declining since 2005. Regional government data on export of furniture from Cirebon show that before 2005, the average export was around 2,500 containers/month and in 2005, in total, it went down to 14,611 containers or 1,218 units/month and in June 2009, the total containers were 824 units (figure 7). Based on volume, in 2005 the total export was 49,614,791 kg., or on average 4,134,566 kg./month, and in 2008, it was slightly higher at 50,548,560 kg. or 4,212,380 kg./month. In June 2009, the volume reached 2,926,142 kg., much lower than the average at 4,038,197 kg./month (figure 8). Based on value in the United States dollar, in 2005, the value was \$US 122,090,576, or slightly above \$US 10 million, and in 2008, it was \$US 40,566,161, or \$US 11.7 million on average per month. In June 2009, the value reached \$US 8.2 million, downed from approximately \$US 10 million from the month previously (figure 9).

Figure 7. Export of furniture from Cirebon, based on number of container, 2005-2009

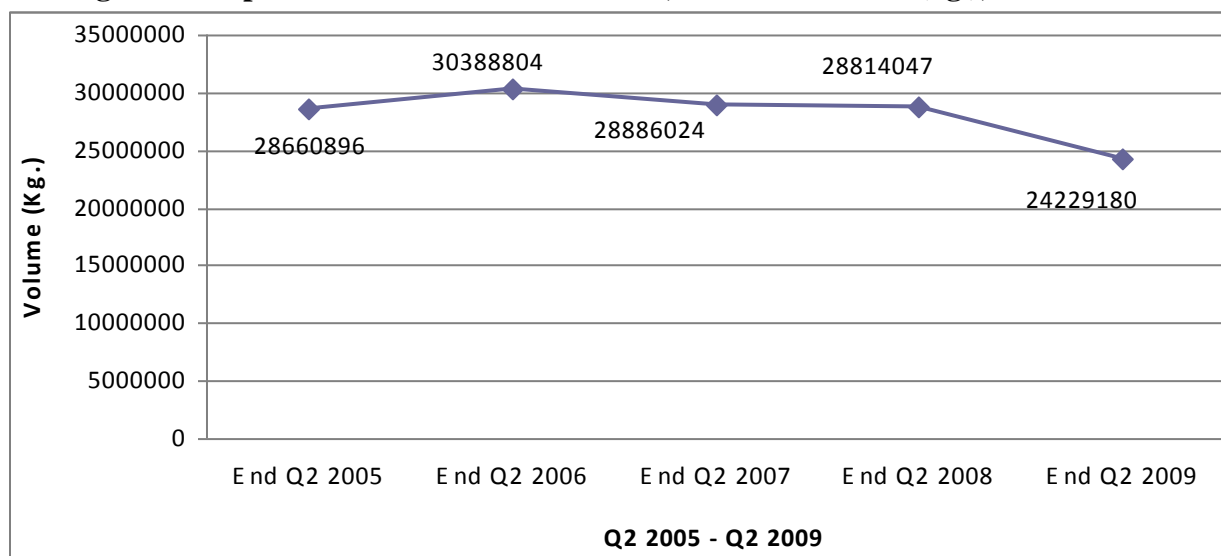
Source: Data from the Regional Office, Department of Industry, Cirebon, 2009.

According to Mr. Sumarca, the decline of furniture export from Cirebon has been caused by three subsequent factors, not only by the current crisis. Firstly, a new regulation issued in 2005 by the Ministry of Industry and the Ministry of Trade, allowing free export for unprocessed wood and rattan, which also go to highly competitive countries in wood and rattan furniture such as China and Viet Nam. This decision does not only cause scarcity problems of raw materials in the local market for domestic furniture producers, but also gives more difficulties for domestic producers to compete with the furniture production of China and Viet Nam, particularly rattan furniture, since rattan is only available in Indonesia. Secondly, the oil (BBM) price increased in 2006 which pushed up production costs, especially prices of processed woods and rattan and other supporting materials. Thirdly, the current global financial crisis started in 2007/08. All these three factors subsequently affected the export volume of wood and rattan furniture from Cirebon during 2005-2009. In addition, Mr Sumarca expects that the implementation of international certification (regarding good forestry management and to prevent illegal logging) for wood products from Indonesia in April 2010 will further negatively affect the export of wood furniture from Indonesia, including Cirebon.

According to Mr. Sumarca, from 2005 to 2009, demand for Cirebon furniture has declined by around 50 per cent. If one container on average needs 60 to 70 workers, then the 50 per cent decline will certainly cause a significant negative employment effect in the region. Until July/August 2009, as a result of the drop in the export of furniture, many workers in the furniture industry, especially women, are now without work. This is most likely because female workers usually do simple or final parts of the production process in the furniture industry (which is in general a male job) such as packaging, therefore they are typically the first victims of the crisis. Yet according to Mr. Sumarca's knowledge, as a further consequence, in 2009 Cirebon sends, for the first time, many women abroad looking for work. Also many former female workers from the industry are now working as domestic servants. While, laid off male furniture workers have moved to other sectors such as construction, services, trade and local transport activities.

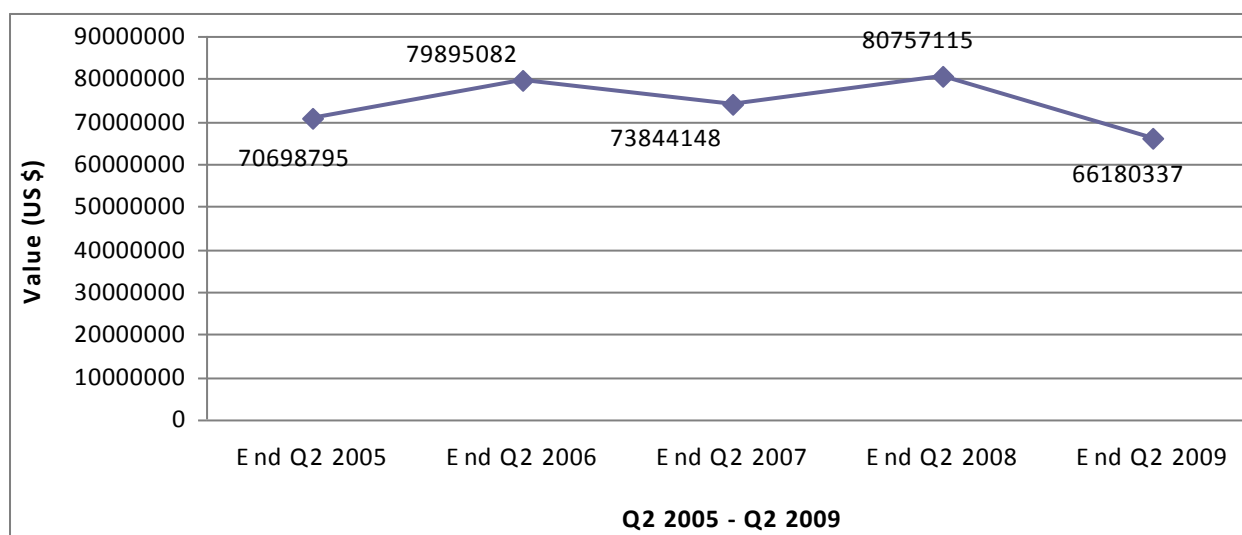
Data from ASMINDO Solo also show a similar picture, that exports of furniture in value and volume from this region have dropped since the end of the second quarter in 2007 (figures 10 and 11). According to Mr. Otok from the ASMINDO Secretariat in Solo during the survey of its total members of 200 furniture producers, in 2008-09 about 30-40 per cent closed their activities, 20 per cent stagnated and 10 per cent have become suppliers to big furniture exporting companies.

Figure 8. Export of furniture from Cirebon, based on volume (kg.), 2005-2009



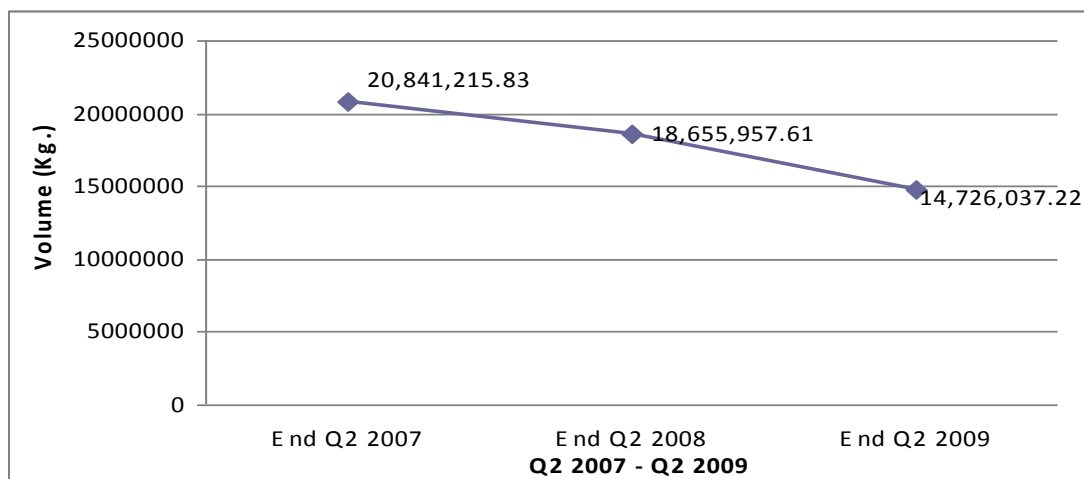
Source: Data from the Regional Office, Department of Industry, Cirebon, 2009.

Figure 9. Export of furniture from Cirebon, based on value (\$US), 2005-2009



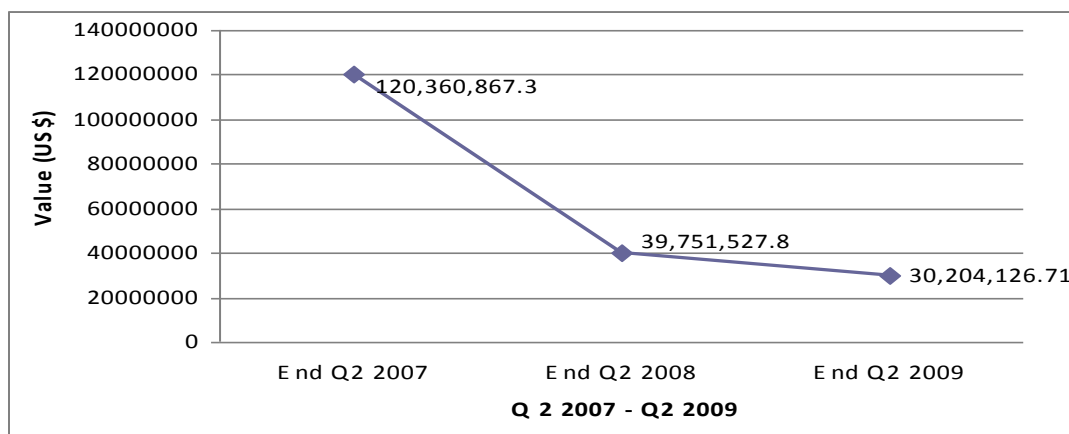
Source: Data from the Regional Office, Department of Industry, Cirebon, 2009.

**Figure 10. Export of furniture from Solo based on volume (kg.),
2nd quarter of 2007-2nd quarter of 2009**



Source: Data from ASMINDO, Solo, 2009.

**Figure 11. Export of furniture from Solo based on value (\$US),
2nd quarter of 2007-2nd quarter of 2009**



Source: Data from ASMINDO Solo, 2009.

C. Government's response to the current crisis in the trade area

While Indonesia is a very open economy, and deserves much credit for its unilateral liberalization, there has been a tendency toward creeping protectionism in recent years, especially through use of non-tariff barriers (NTBs). More than one half of Indonesia's tariff lines currently require special import permits. Many of these permits exist for health and safety purposes (e.g. quarantine rules), but they provide wide scope for border officials to use discretionary judgment. Nearly one third of the import containers are subject to physical inspection (red lane) versus less than 10 per cent under international goods practice. Many new import permits have been created in recent years, such as the special import registration number (NPIK) and a new requirement that imports of electronics, garments, footwear, toys and shoes hold a Limited Importer licence and undergo pre-shipment inspection at the port of loading. While the purpose is often to combat smuggling, these regulations drive up the costs

of critical inputs needed by domestic firms, such as computers and hand phones, thereby reducing the competitiveness of Indonesian products.

In response to the 2008-2009 crisis, the Indonesian Government prepared sets of policy instruments that were intended to: (1) strengthen and maintain stability in the domestic financial sector, and (2) stabilize and stimulate the domestic economy by fiscal expansion in 2009. Given that consumption spending is a large proportion on GDP, the Government prepared a fiscal stimulus package to maintain domestic purchasing power. The stimulus package accounted for approximately 2.4 per cent of GDP or 73.3 trillion rupiah.

In the trade area, the Government also implemented many trade-related measures since early 2008. Some of the measures are the following:⁵²

1. The Ministry of Trade announced that five categories of goods (food and beverages, garments, electronic goods, shoes and toys) should only be imported through five major seaports: Jakarta, Medan, Semarang, Surabaya and Makassar.
2. The Minister also issued Regulation No. 56/M-DAG/PER/12/2008 (December 2008) that has imposed additional requirements on over 500 products that are looking to be imported into Indonesia.
3. The Government postponed implementation of the 2009 tariff harmonization programme for 324 tariff lines – the 2008 tariff still applies. There were some temporary tariff increases on certain imported products that compete with domestic manufactured products in order to prevent their declining competitiveness; however, at the same time, the Government reduced the tariffs on some other imported primary and intermediary products not produced domestically.
4. The Government launched a regulation on the Indonesia Export-Import Bank (UU Lembaga Pembiayaan Ekspor Indonesia/LPEI) and strengthened the institution of ASEI (Indonesian Export Insurance).
5. The Government has introduced a measure to facilitate trade through the implementation of a National Single Window.
6. The Government has introduced new import tariffs (from 0 to 5 per cent) for raw materials and for processed milk products from e.g. Australia, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Ireland, Malaysia, Netherlands, New Zealand, Philippines, Poland, and Singapore.
7. The Government initiated a safeguard investigation on imports of wire, nail/wire, iron/non-alloy steel (not plated), and imposed a definitive safeguard duty. Indonesia imports this product from countries such as Australia, Belgium, Canada, China, Japan, Malaysia, Republic of Korea, Singapore, Sweden and Thailand.
8. The Government approved the Law on Shipping (No.17/2008) on 8 April 2008 and contains the so-called cabotage principle.

⁵² See more details in the Global Trade Alert database, www.globaltradealert.org.

9. The Ministry of Health has issued Decree No. 1010/08 regulating the registration and import of pharmaceutical products.
10. The Government exempted 26 textile products from special import requirements, from: Australia; China; Germany; Hong Kong, China; China; Italy; Japan; Malaysia; Morocco; the Philippines; Portugal; Republic of Korea; Singapore; Spain; Thailand; and Turkey.

In addition, since November 2008, the Government has also initiated many antidumping investigations on imports of many goods from a number of countries, such as wheat flour originating in Australia, Sri Lanka and Turkey; hot rolled coil originating from the Republic of Korea and Malaysia; polyester staple fiber originating from China, India and Taiwan Province of China; H Beam and I Beam from China;

The Ministry of Trade and the Ministry of Industry in Jakarta ever announced together in 2008 that, in the short run, economic policy will need to focus on domestic demand as a necessary response to the global economic downturn. However, over the medium and longer term, the global economy will recover, and exports will once again have the potential to make a major contribution to growth and employment. Therefore, the ministries put emphasis that Indonesia needs to position itself now to take advantage of this future recovery by improving the competitiveness of domestic production.

Thus, although the short-run crisis-response policy is inward looking, the Indonesian Government does not tend to indulge in more protection, which stifles efficiency and innovation and perhaps retribution by other countries. However, to attack the current problems of Indonesian competitiveness and production capacity at its roots, the focus is through various measures, including reducing barriers to domestic trade by streamlining local regulations and licenses, cutting logistics costs, investing in infrastructure, improving standards and product quality, and maintaining an open and competitive trade and investment regime, by reducing NTBs and logistics costs. These measures are taken simultaneously with measures to increase domestic demand through various fiscal simulation packages.

The Indonesian Government expected that the global economic crisis 2008-2009 provided a strong reason for Indonesia to push ahead reforms that boosts domestic productivity and competitiveness. The Government expects that this crisis-response strategy, i.e. a combination of domestic market-oriented measures, export competitiveness and capacity improvement measures, will increase domestic sales on one hand, but also increase the competitiveness of Indonesian exporters to gain world market shares in the global economic recovery.

Even to promote growth in the real sector in this crisis situation, the Government has adopted a more “liberal” than “protectionist” stance by allocating a fiscal stimulus through tax cuts for food staples, agriculture and manufacturing, and including value added tax exemption for 17 industries. In addition, the Government provides import duty relief for nine industries. Allocations of the two stimuli prescribed in the Minister of Finance regulations, total almost Rp 12 trillion (table 4).

Table 4. Import duty exemption

<i>No.</i>	<i>Industry</i>	<i>Import duty subsidy (Rp millions)</i>
1.	Ballpoints	25,390
2.	Heavy equipment raw materials and components	220,560
3.	Low capacity thermal power plant raw materials and components	14,037
4.	Dairy raw materials (skim and full cream milk powder)	256,680
5.	Methyltin mercaptide additive materials	1,488
6.	Automotive manufacturing raw materials and components	795,200
7.	Electronic components	323,400
8.	Telematics (fibre optics and telecommunications components)	70,000
9.	Shipbuilding raw materials and components	226,600
10.	Additive materials for sorbitol production	1,058
11.	Raw materials and equipment for film production	25,000
12.	Electricity	14,000
13.	Medical equipment	11,400
14.	Aircraft	416,000
	Total	2,400,813

Source: Data from the Ministry of Trade.

In further actions, the Government has issued Government Regulation No. 62 of 2008 concerning the Amendment of Government Regulation No.1 of 2007 concerning Income Tax Relief for Investment in Designated Business Lines and/or Designated Regions. The amendment encompasses several improvements in provision of income tax relief for investments. Under Government Regulation No. 62 of 2008, tax relief on investment has been expanded to include eight new lines of business as follows: livestock farming, processing of forestry products from timber estates, low rank coal mining development and extraction, geothermal energy production, dairy and dairy food industries, oil refineries, construction of mini-scale natural gas refining and processing plants, and synthetic fiber manufacturing. In addition to these industries/sectors, six new business lines are also eligible for tax relief when operating in designated regions: food crop cultivation, horticulture development, leather, leather goods and footwear manufacturing, electrical accumulator and solid battery manufacturing, and fishing, boatbuilding and the repair industry.

D. Conclusion

As an open economy, Indonesia is inevitably impacted by the fall out from the 2008/2009 global economic crisis. This is the natural consequence of the growing integration of Indonesia into the world economy. In 2009, the world economy is predicted to head towards a deeper recession, and this will naturally influence the dynamics of the Indonesian economy. However, the various actions taken by some countries, especially key players such as the United States, Japan, and European countries, and also China and India, to move forward with aggressive fiscal and monetary stimulus, are expected to keep the world economy from sliding into depression.

Despite the fact that since early 2008 the Indonesian Government has taken several trade-related measures, some of which are “inward-looking”-oriented, however, overall the Government did not adopt a protectionism approach in response to the global economic crisis, for at least two main reasons. Firstly, the Government always believed that the current crisis is a short-run crisis. The negative impact of the crisis on some key Indonesian exports, such as furniture (as discussed in this paper), should therefore be reduced by shifting the exports to domestic market. For this, fiscal stimulus, among other measures, is crucial to increase domestic demand. At the same time, export should be promoted and for this purpose, all domestic constraints on Indonesian export capacity and competitiveness should be removed. This strategy, combining “inward looking” approach with “outward looking” approach, is also motivated by the fact that the crisis, this time, has not seriously affected the Indonesian economy, as during the 1997-1998 Asian financial crisis, when the rate of Indonesian economic growth fell to negative 13 per cent in 1998.

Secondly, learning from the experience during the 1997-1998 crisis, a protectionist approach is not a good strategy to cope with a crisis and to speed up the recovery process. During the new order era, under the president Soeharto (1966-1998), the Indonesian economy was more protected than in the post 1997-1998 crisis period. Although during that period the Government took many measures to liberalize gradually the national economy by shifting its trade regime from an import substitution strategy toward an export promotion strategy. However, because the Indonesian economy had been protected too heavily and too long during the Soeharto era, the economy had become very inefficient and uncompetitive. Thus, based on those two considerations, this time, sustained actions to build macroeconomic resilience, improve competitiveness and bolster the sources of domestic economic resilience have been chosen as the best strategy for Indonesia to cope with the crisis and to speed up the recovery process.

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Chapter V

Trade costs and facilitation in APEC and ASEAN: delivering the goods?

By Ben Shepherd⁵³

Introduction

Trade facilitation is a popular idea in the Asia-Pacific region. It is one of the more prominent initiatives in regional integration programmes, in particular APEC and ASEAN. Both groups recognize that tariffs are just the tip of the iceberg (cost) when it comes to international and regional trade. So reducing trade costs and facilitating exports and imports must be about much more than just tariff cuts. This is the importance of “broad sense” trade facilitation, i.e. policies designed to reduce the transaction costs of international trade.

APEC has been particularly forthright in its commitment to trade facilitation. In the 2001 Shanghai Declaration, APEC leaders committed to reduce trade transaction costs by 5 per cent over the following five years. In 2005 at Busan, they pledged an additional 5 per cent cut. Implicitly, there must have been a consensus within APEC that the Shanghai goal had been reached. So it is remarkable that there is no analytical work to support this conclusion. A mid-term review (Woo, 2004) examined the nature and extent of trade facilitation initiatives undertaken by individual member economies, but did not conduct a quantitative assessment of the trade cost reductions those steps might have brought about.

This paper is a first attempt to fill that analytical gap, and answer the question: “has trade facilitation been delivering the goods?”. To do so, it uses a newly developed methodology to measure trade costs in APEC and ASEAN between 1995 and 2008, and 2001 and 2007, respectively. It shows that there has been some encouraging progress towards the Shanghai target among APEC members. There has also been some movement in ASEAN, although data limitations make it harder to assess its full extent. In both cases, however, performance varies markedly across countries.

To better understand the role of trade facilitation in bringing about these changes in trade costs, “back of the envelope” decomposition into tariff and non-tariff components is undertaken. In both APEC and ASEAN, tariff reductions have played an important role in reducing overall trade costs. Progress on non-tariff trade costs has been much less impressive. This finding raises serious questions as to the effectiveness of trade facilitation efforts in the Asia-Pacific region, which should be clearly focused on non-tariff trade costs.

The next section briefly overviews trade facilitation initiatives in APEC and ASEAN. It also discusses the most important recent literature on their effectiveness. Section B discusses the paper’s methodology and dataset. It then presents overall results, decomposes them into tariff and non-tariff trade costs, and interprets them in terms of the trade facilitation objectives of APEC and ASEAN. Section C concludes, and discusses some possible policy implications.

⁵³ This paper is part of an ongoing research project on trade costs supported by the Groupe d’Economie Mondiale at Sciences Po, and conducted jointly with Sébastien Miroudot to whom the author is grateful for many helpful discussions.

A. Experience with reducing trade costs in APEC and ASEAN

This section briefly reviews the various trade facilitation initiatives undertaken by APEC and ASEAN.⁵⁴ It then examines the available evidence on the extent to which these initiatives have borne fruit in terms of lower trade transaction costs in the region.

1. Trade facilitation in APEC and ASEAN

APEC was brought into existence to promote the long-term goal of free and open trade and investment in the Asia-Pacific region. According to the group's 1994 Bogor Goals, industrialized member economies are supposed to reach this goal by 2010, with developing member economies to follow by 2020. Notwithstanding APEC's initial focus on tariff reductions, the Bogor Goals recognize that traditional trade liberalization is a necessary but not sufficient condition for achieving free and open trade. Trade facilitation also has an important role to play in eliminating administrative and other impediments to international trade flows. It also fits well with member economies' preference for non-discriminatory measures: APEC is not designed as a traditional free trade agreement, but rather as a cooperative forum in which member economies can jointly engage on a path of unilateral reforms that are as compatible as possible with the broader objective of global free trade.

One of the most ambitious steps taken by APEC member economies was in 2001. At their Shanghai meeting, leaders agreed to reduce trade transaction costs by 5 per cent over the following five years. With the aim of providing a roadmap for achieving that goal, APEC's Trade Facilitation Action Plan (TFAP) was released the following year. The TFAP established a set of trade facilitation measures covering four areas: customs procedures; standards and conformity assessment; business mobility; and electronic commerce. Member economies use their Individual Action Plans (IAPs) to provide annual progress reports. The next section reviews the extent of member economies' TFAP implementation based on their IAP reports.

ASEAN is another important regional grouping from a trade policy point of view, even though its membership is much more limited than APEC's. The overarching trade objective for ASEAN is now the ASEAN Economic Community. It is intended to bring together existing arrangements on liberalizing trade, investment and services. An ASEAN single market is supposed to be in place by 2015. Although progress on trade costs in ASEAN was initially very slow, it has accelerated somewhat since the mid- to late-1990s. As in APEC, trade facilitation and behind-the-border measures are an important part of the overall approach.

2. Trade facilitation and trade costs: the evidence so far

In 2004, APEC's Committee on Trade and Investment considered the results of a mid-term review of progress under the TFAP (Woo, 2004). The review provided a comprehensive assessment of actions taken by member economies under the four pillars of APEC's trade facilitation program. On a qualitative level, it showed evidence of substantial progress. Of the

⁵⁴ This section draws on the comprehensive review of East Asian trade facilitation initiatives in Pomfret and Sourdin (2009).

1,300 action items identified under the TFAP, member economies had selected over 90 per cent for implementation. Of those, about half had already been completed by the time of the mid-term review. The percentage of completed items was highest in customs, and lowest in the “other” categories (including electronic commerce). (See table 1.)

However, these overall figures obscure considerable variation at the country level and shows that some member economies have been far more active than others in choosing TFAP action items for implementation. The degree of success in implementation – i.e., progress versus completion – also varies markedly across the region. One standout example is the United States, which has selected only 19 TFAP items, and has not reported implementation of any of them. The mid-term review (Woo, 2004) provides a comprehensive assessment of country efforts in each of the four main TFAP areas.

Although there is evidence that APEC member economies have pursued important items on their trade facilitation agenda – albeit with varying degrees of assiduity and success – there are far fewer indications of the extent to which these efforts have translated into lower trade costs. Member economies are not required to submit quantitative evidence showing that measures they have undertaken actually reduce trade costs. Even the TFAP mid-term review (Woo, 2004) lacks any quantitative investigation of the extent to which member economies’ implementation efforts are taking them closer to the goal of a 5 per cent reduction in trade transaction costs.

Wilson and others (2003) provide a first assessment of the possible extent to which improved trade facilitation in APEC could boost trade within the region. They measure trade facilitation using four dimensions: port efficiency; the customs environment; the regulatory environment; and e-business usage. Although not directly drawn from the four pillars listed in APEC’s TFAP, there is nonetheless some overlap between the two, particularly in relation to customs and e-business. Using a gravity model, the authors find that intra-APEC trade is particularly sensitive to the quality of ports, and the level of regulatory barriers. They suggest that these areas should be particular priorities for trade facilitation moving forward. Simple counterfactuals are consistent with improved trade facilitation being associated with a major boost in intra-APEC trade, and consequently growth in per capita incomes.

Table 1. Progress on trade facilitation by APEC member economies

	No. of Items Selected				No. of Items Implemented				No. of Items Completed			
	Cust oms	Standards	Mobilit y	E- Commerce	Custo ms	Standar ds	Mobil ity	E- Commerce	Custo ms	Standar ds	Mobil ity	E- Commerce
Australia	42	19	6	10	40	19	6	10	31	17	6	0
Brunei Darussalam	45	12	4	6	35	12	4	6	26	8	3	3
Canada	39	16	6	11	39	16	6	11	30	13	5	3
Chile	42	20	6	11	40	11	4	8	31	4	3	1
China	60	20	6	11	45	12	5	4	43	7	3	1
Hong Kong, China	33	19	6	9	33	19	6	9	31	13	2	2
Indonesia	39	14	6	6	30	11	5	4	-	-	-	-
Japan	60	20	6	11	56	18	5	10	54	11	4	10
Republic of Korea	46	11	6	12	45	10	5	12	44	9	5	10
Malaysia	46	20	6	11	46	20	6	11	35	11	5	10
Mexico	60	20	6	11	50	16	6	7	23	2	2	7
New Zealand	42	56	17	6	40	55	15	4	31	53	12	3
Papua New Guinea	57	20	6	11	-	-	-	-	-	-	-	-
Peru	38	14	2	-	34	7	2	-	34	2	2	-
Philippines	12	5	2	5	28	3	2	3	37	9	3	7
Russian Federation	44	20	3	16	36	19	3	10	13	8	3	2
Singapore	39	11	5	8	39	11	5	8	38	10	5	8
Taiwan Province of China	40	26	6	11	39	24	4	11	32	20	4	4
Thailand	53	20	6	11	45	18	5	11	32	6	2	6
United States	17	-	-	2	-	-	-	-	-	-	-	-
Viet Nam	49	20	6	11	21	11	5	6	19	10	2	5
Total	903	383	117	190	741	312	99	145	584	213	71	82

Source: Helble and others, 2007.

Shepherd and Wilson (2009) use a similar methodology to examine the effects of trade facilitation in South-East Asia, focusing on ASEAN members. They measure trade facilitation using the same four dimensional approach as in Wilson and others (2004). They find that intra-ASEAN trade is particularly sensitive to infrastructure quality, and the use of information and communication technologies (ICTs). In line with the results from Wilson and others (2004), the authors find that improvements in trade facilitation have significant potential to boost intra-regional trade.

Although Wilson and others (2004) and Shepherd and Wilson (2009) provide substantial evidence on the sensitivity of trade flows with respect to trade facilitation, they do not undertake any direct analysis of the extent to which trade costs have fallen in the region in recent years. Nor do they reach any conclusions as to the effectiveness of trade facilitation in supporting trade cost reductions.

In light of this gap in the literature, Pomfret and Sourdin (2009) take a different approach. They focus much more directly on the issue of trade costs. They use Australian data on CIF and FOB trade values to estimate trade costs for Asian countries trading with Australia. Their measure essentially captures international shipping costs, which are an important part of the overall cost of moving goods between countries. For Asian APEC member economies, they find a reduction in trade costs from 6.1 per cent to 4.3 per cent ad valorem between 2001 and 2006 (a roughly 30 per cent change), and then to 4.1 per cent in 2007. For ASEAN, the comparable figures are 7 per cent in 2001, 4.3 per cent in 2005, and 3.9 per cent in 2007, so about a 45 per cent change from 2001-2007. These changes are quantitatively important, but need to be kept in perspective: they only relate to international transport costs, and do not capture the broader range of trade costs that are central in the trade facilitation literature.

B. Trade costs in APEC and ASEAN, 1995-2008

This section extends the work reviewed in the previous section by using a broader measure of trade costs to analyse the extent of progress on trade facilitation in the region. Whereas the CIF/FOB measure used by Pomfret and Sourdin (2009) essentially captures international shipping costs, the broader measure of trade costs used here includes the full range of costs involved in moving goods between countries. It is strongly grounded in recent trade theory, and potentially provides the basis for a comprehensive approach to trade facilitation.

1. Methodology and data

Starting from the standard, theory-consistent gravity model of Anderson and Van Wincoop (2003), Novy (2009) develops a comprehensive measure of bilateral trade costs.⁵⁵ Equation 1 presents that measure in ad valorem equivalent terms. It is the geometric average of bilateral trade costs for exports from country i to country j and from country j to country i , expressed relative to domestic trade costs in each country ($\frac{t_{ij}}{t_{ii}}$ and

⁵⁵ In fact, Novy (2009) shows that basically the same measure can be derived from a wide variety of theoretical models of international trade. The interpretation of some parameters changes depending on the model used, but the overall approach remains very similar.

$\frac{t_{ji}}{t_{jj}}$ respectively). To calculate it, all that is required is data on domestic production relative to exports in both countries ($\frac{x_{ii}}{x_{ij}}$ and $\frac{x_{jj}}{x_{ji}}$). The parameter s is the elasticity of substitution among varieties in a sector, assuming the Anderson and Van Wincoop-based derivation of Novy's measure of trade costs.

$$\overline{t_{ij}} = \left(\frac{t_{ij}t_{ji}}{t_{ii}t_{jj}} \right)^{\frac{1}{2}} - 1 = \left(\frac{x_{ii}x_{jj}}{x_{ij}x_{ji}} \right)^{\frac{1}{2(s-1)}} - 1 \quad (1)$$

Intuitively, Novy's measure captures the fact that if a country's trade costs vis-à-vis the rest of the world fall, then a part of its production that was previously consumed domestically will instead be shipped overseas. Trade costs are thus closely related to the extent to which a country trades with itself rather than other countries, and data on this kind of relative openness can be used to make inferences about the level of trade costs and their variation over time.

This approach has three main advantages over the readily available alternatives. Firstly, it represents a comprehensive measure of the full range of trade costs, namely the costs of moving goods between countries relative to the costs of moving them within countries. It captures international shipping—as in work using CIF/FOB ratios—but also a much wider variety of cost factors. (See Anderson and Van Wincoop, 2004 for a full review.) It takes account of all factors that make it harder to ship goods between rather than inside countries, for example: border infrastructure; customs and clearance procedures; access to trade finance; differences in business and investment climates; and behind-the-border regulatory measures, including standards and conformity assessments, which have asymmetric impacts on local versus foreign producers. Even the effects of regulatory measures that are discriminatory in fact but not in law are included in this measure of trade costs.

The second advantage of Novy's measure is that its data requirements are minimal. As a result, it is feasible to obtain measures of trade costs across a wide variety of countries and time periods. Thirdly, it relies on a theory-based rearrangement of data, rather than econometric estimation. It thus does not suffer from the possibility of omitted variables bias, which plagues gravity model estimates.⁵⁶

The remainder of the paper presents results for $\overline{t_{ij}}$ calculated as the ad valorem equivalent of trade costs between APEC member economies, ASEAN member countries, and the world as a whole.⁵⁷ Trade flows – exports and imports with the world – are sourced from UN Comtrade via WITS. GDP data are taken from the World Development

⁵⁶ Novy (2009) shows that even allowing for measurement error does not introduce substantial uncertainty into measures of trade costs inferred using equation (1).

⁵⁷ Future work in this research project will separately identify intra- and extra-bloc trade costs, in order to assess the extent to which discrimination among trading partners might be an issue. Given APEC's aim of consistency with multilateral liberalization efforts, however, it is pertinent to start by calculating trade costs vis-à-vis the world as a whole.

Indicators. Domestic production is proxied by GDP less total exports.⁵⁸ Since GDP is calculated on a value added basis, but x_{ii} and x_{jj} should be gross shipments, \bar{t}_{ij} as calculated here tends to understate the true level of trade costs. Estimates of ad valorem equivalents should therefore be regarded as lower bounds.

The elasticity of substitution s is set equal to 8, which is a common rule of thumb (Novy, 2009). Although ad valorem equivalents are quite sensitive to the value chosen for s , using indices relative to a base year reduces that problem to economically insignificant levels. The index number approach also makes the value added versus gross shipments problem less serious, on the assumption that the ratio of the two remains relatively stable through time. The next section presents results using both methods.

2. APEC trade cost reductions: was the Shanghai goal met?

Table 2 presents ad valorem equivalents of trade costs in APEC member economies, calculated using equation (1). On the surface, these estimates might appear very high, for example, they are an order of magnitude greater than the trade costs calculated by Pomfret and Sourdin (2009) using CIF/FOB ratios. However, it is important to be aware of the differences between the two measures. CIF/FOB ratios do not capture impediments to international trade other than those directly associated with shipping the goods. However, the trade facilitation literature has identified many other factors that also impact trade flows, and those findings are reflected in APEC's approach to trade facilitation, which encompasses a wide range of policy areas.

A partial reality check for the figures presented in table 2 is provided by Anderson and Van Wincoop (2004). Those authors conducted a comprehensive review of the gravity modeling literature, and identified a set of factors – policy-related and “natural” – that have been robustly found to have significant trade impacts. Their back-of-the-envelope aggregate measure of international trade costs based on the evidence reviewed suggested an ad valorem equivalent of approximately 55 per cent. The numbers presented here are quite similar to that benchmark.

As can be seen from the table, a number of APEC member economies have experienced significant reductions in trade costs over the Shanghai Declaration's 2001-2006 timeline. The final column of the table shows the absolute (percentage point) change in ad valorem trade costs over that period. Eight member economies have met or exceeded the 5 per cent goal, with another two very close to it. On the other hand, six member economies still had a considerable extra distance to travel in 2006; there is even evidence of slight backsliding in some cases.

⁵⁸ The research project of which this paper is a part of, is currently compiling comparable data on production and trade across a wide range of countries. However, it is not possible to present results for APEC and ASEAN using these data at the present time.

Table 2. Trade costs in APEC member economies vis-à-vis the world, expressed as ad valorem equivalents (per cent)

	2001	2002	2003	2004	2005	2006	2007	2008	Change 2001- 2006
Australia	66.21	65.34	65.52	65.25	63.38	61.76	61.23	58.83	-4.45
Brunei Darussalam	90.94	88.07	91.24			86.00			-4.94
Canada	42.41	43.75	45.30	45.68	45.00	45.13	44.87	43.80	2.72
Chile	74.44	76.29	75.39	70.74	68.02	64.35	62.30	59.60	-10.09
China	49.90	47.14	42.80	39.08	36.89	34.92	34.31	34.63	-14.98
Hong Kong, China	57.54	58.62	57.37	57.07	57.50	56.22	60.00	61.48	-1.32
Indonesia	63.03	66.37	68.95	64.97	62.19	63.46	63.04	57.92	0.42
Japan	54.32	54.17	53.42	51.57	50.23	48.24	47.42	46.52	-6.08
Republic of Korea	49.74	50.14	48.69	45.18	44.95	43.66	42.79		-6.09
Mexico	50.16	50.88	52.53	51.42	50.55	49.15	49.12	48.92	-1.01
Malaysia	21.69	23.71	21.61				20.68		
New Zealand	77.85	79.51	80.38	79.23	77.80	78.11	77.88	75.15	0.25
Peru	95.96	95.50	94.23	89.75	84.92	80.34	78.02		-15.63
Philippines	57.26	55.66	56.56	56.70	58.27	58.56	61.35	64.62	1.31
Papua New Guinea	88.81	92.81	87.87	83.79					
Russian Federation	60.99	61.17	59.96	58.23	55.65	53.38	52.20	49.23	-7.62
Thailand	47.12	48.04	46.49	43.97	40.02	39.72	39.89	37.71	-7.40
United States	46.47	47.58	47.97	46.91	45.89	44.57	44.35	43.65	-1.90
Viet Nam	65.14	62.66	59.38	55.19	53.06	49.39	45.22		-15.75

Notes: Shading indicates the “5 per cent in five years” goal stated in the Shanghai Declaration.⁵⁹

Among APEC member economies, China, Peru and Viet Nam stand out in particular. Their trade costs have fallen by around 15 percentage point in each case. It is important not to overstate this result, however. As pointed out above, the trade costs measure used in this paper is a geometric average of trade costs in each direction for a given bilateral link. Lower trade barriers in the rest of the world are therefore reflected in these figures too. In some cases, this can be quantitatively important. China, for instance, has made genuine progress in lowering its own trade barriers in recent years. But at the same time, its WTO accession has meant gradually improving market access abroad. Table 2 reflects both of those dynamics.

In addition to looking at individual country performance, it is also useful to consider average performance across the region. Figure 1 uses ad valorem equivalents to

⁵⁹ Ad valorem equivalents are calculated using equation (1) and assuming $s = 8$, as in Novy (2009).

summarize APEC's performance as a whole. In simple average terms, APEC's trade costs with the rest of the world fell from 61 per cent to 56 per cent ad valorem over the 2001-2006 period. APEC appears to have met its 5 per cent in five years goal, but only just barely. A GDP weighted average reinforces this impression: trade costs fell from 50 per cent to 46 per cent, i.e. slightly less than the 5 per cent goal.

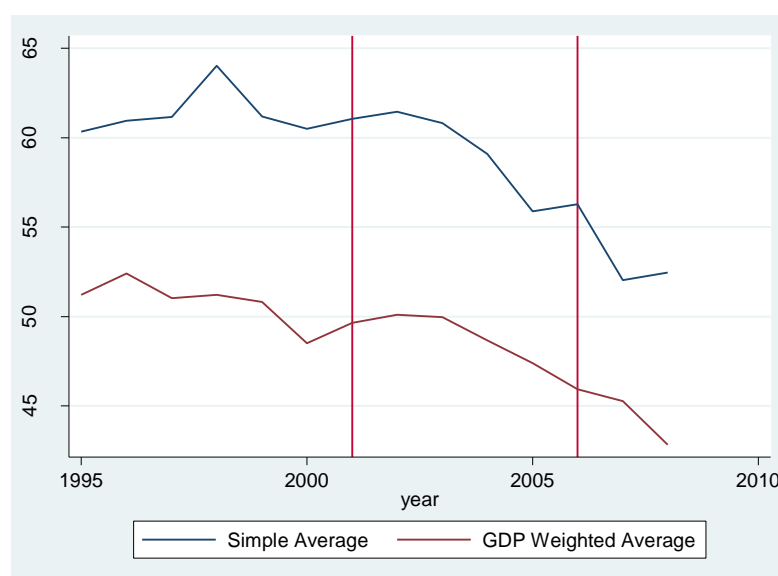
A more generous metric than percentage point changes in ad valorem equivalents is to look at percentage changes in trade costs relative to the 2001 benchmark level. This approach has the added benefit of being much less sensitive to the choice of the elasticity parameters.

Figure 2 presents results, with trade costs expressed as an index number. Results from the simple and GDP weighted averages are much closer in this case: they both indicate a fall in the trade costs index from 100 in 2001 to 92 or 93 in 2006, i.e. a 7 per cent-8 per cent reduction. If the "5 per cent in five years" criterion is interpreted as a relative, rather than absolute, objective then there is clear evidence that APEC as a whole has achieved this aim.

3. Trade cost reductions in ASEAN

This section examines the evolution of trade costs in ASEAN over the period 2001-2007. This shorter time interval reflects data limitations; but as table 3 shows, even this restriction only makes it possible to obtain partial results for seven out of ten ASEAN member countries.

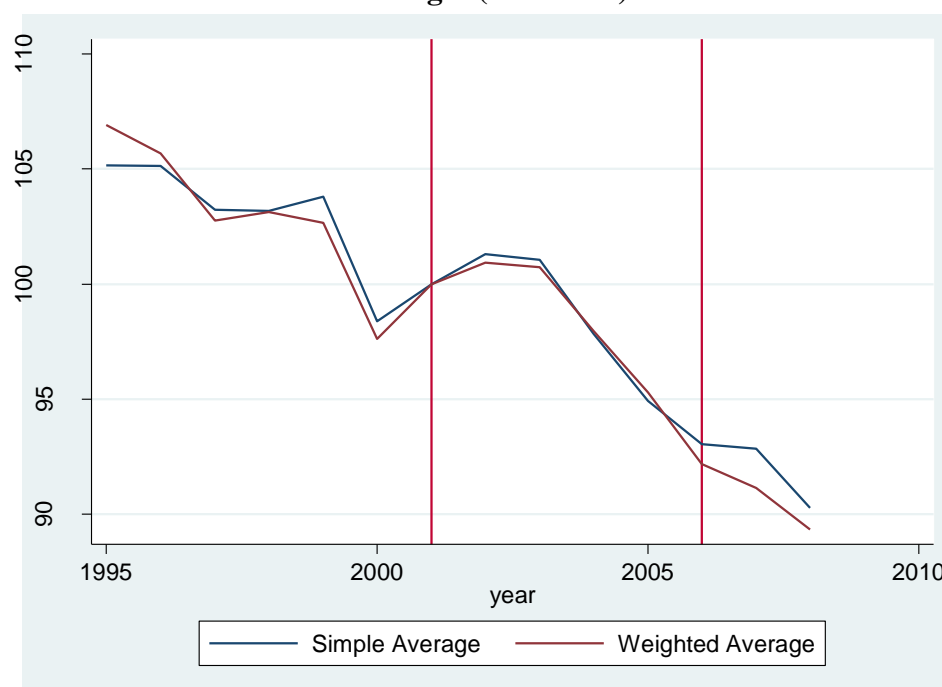
Figure 1. APEC trade costs vis-à-vis the world in per cent ad valorem equivalent terms, simple and GDP weighted averages



Note: Vertical lines indicate the period of the "5 per cent in five years" goal in the Shanghai Declaration.⁶⁰

⁶⁰ Averages are calculated using a consistent sample, i.e. only those APEC member economies for which data are available over the full 1995-2008 period. The sample

Figure 2. Index of APEC trade costs vis-à-vis the world, simple and GDP weighted averages (2001=100)



Notes: Vertical lines indicate the period of the “5 per cent in five years” goal in the Shanghai Declaration.⁶¹

Although there is some evidence of falling trade costs among ASEAN member states, the pace and scope of changes are less impressive than for APEC. Of the five countries for which data are available over the full sample period, only two have experienced reductions of more than 5 per cent. Brunei Darussalam and Cambodia, for which only partial data is available, also show signs of significant reductions.

At first glance, the regional averages in figures 3 and 4 (ad valorem equivalents) and (trade costs index, 2001=100) appear to suggest more significant trade cost reductions than the country numbers in table 3. In simple average terms, ad valorem equivalent trade costs fell from 58 per cent to 53 per cent between 2001 and 2007, but the reduction is only from 57 per cent to 55 per cent on a GDP-weighted basis. It is important to keep in mind, however, that these averages are calculated on the basis of a consistent sample over the full time period being studied. Only four countries satisfy the requirement of having data available for all periods, and two of them – Thailand and Viet Nam – have experienced significant trade cost reductions. So figures 3 and 4 probably overstate the extent to which ASEAN trade costs have been reduced.

includes: Australia, Canada, Indonesia, Japan, Mexico, the Philippines, the United States and Viet Nam.

⁶¹ Averages are calculated using a consistent sample, i.e. only those APEC member economies for which data are available over the full 1995-2008 period. The sample includes: Australia, Canada, Indonesia, Japan, Mexico, the Philippines, the United States and Viet Nam.

Table 3. Trade costs in ASEAN member states vis-à-vis the world, expressed as ad valorem equivalents (per cent)⁶²

	2001	2002	2003	2004	2005	2006	2007	Absolute Change (2001-2007)
Brunei								
Darussalam	90.94	88.07	91.24			86.00		
Indonesia	63.16	66.45	69.02	65.02	62.19	63.54	63.13	-0.03
Cambodia	98.36	93.01	94.21	90.24				
Malaysia	21.95	23.93	21.97				21.30	-0.65
Philippines	57.31	55.72	56.65	56.75	58.32	58.72	61.46	4.15
Thailand	47.27	48.24	46.70	44.13	40.02	39.97	40.27	-7.00
Viet Nam	65.14	62.67	59.46	55.38	53.30	49.83	45.44	-19.71

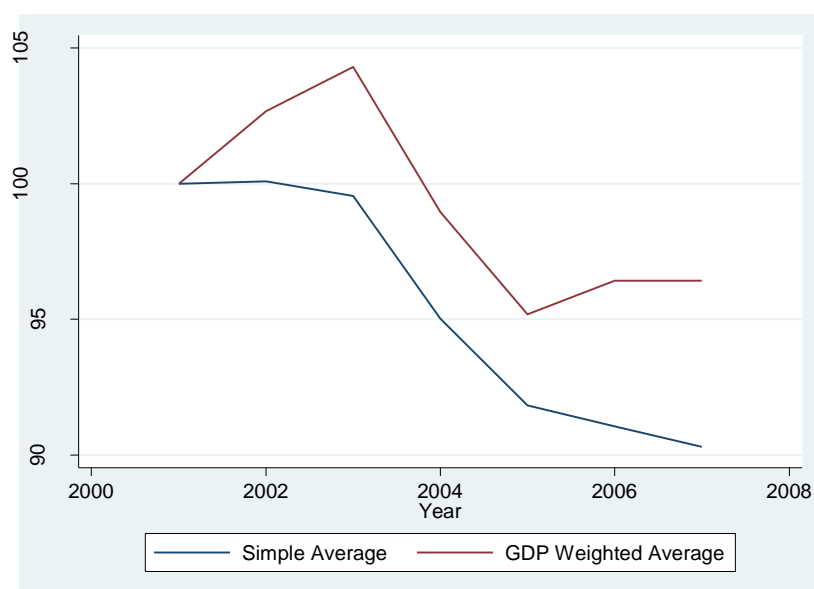
Figure 3. ASEAN trade costs vis-à-vis the world in percent ad valorem equivalent terms, simple and GDP weighted averages⁶³



⁶² Ad valorem equivalents are calculated using equation (1) and assuming $s = 8$, as in Novy (2009).

⁶³ Averages are calculated using a consistent sample, i.e. only those ASEAN member economies for which data are available over the full 1995-2008 period. The sample includes: Indonesia, the Philippines, Thailand and Viet Nam.

Figure 4. Index of ASEAN trade costs vis-à-vis the world, simple and GDP weighted averages (2001=100)⁶⁴



4. What role for trade facilitation?

Since the trade cost measures discussed thus far are very broad in terms of what they capture, it would be inaccurate to ascribe the full cost reductions calculated in the previous section to trade facilitation. Lower tariffs could also have played an important role in lowering overall trade costs. It is important to push the data a little further in order to assess the relative importance of tariffs and trade facilitation, used here in the broad sense – consistent with APEC’s approach – of measures designed to reduce costs, other than tariff cuts.

Data on applied tariffs are available from UNCTAD’s TRAINS database via WITS. Since trade costs in Table 2 are in ad valorem equivalent terms, it is possible to obtain a rough decomposition of the total into tariff and non-tariff elements by subtracting the geometric mean of a country’s tariffs on foreign imports and the tariffs its exports face abroad. This decomposition is important because the Shanghai goal should in theory apply to non-tariff trade costs only. Results are presented in table 4, which suppresses numbers for all but the starting and ending years in the interests of readability. Full results are available on request.

⁶⁴ Averages are calculated using a consistent sample, i.e. only those ASEAN member economies for which data are available over the full 1995-2008 period. The sample includes: Indonesia, the Philippines, Thailand and Viet Nam.

Table 4. Changes in tariff and non-tariff trade costs in APEC, 2001-2006

	2001			2006			Absolute Change		
	Total	Tariff	Non-Tariff	Total	Tariff	Non-Tariff	Total	Tariff	Non-Tariff
Australia	66.21	4.22	61.99	61.76	2.90	58.86	-4.45	-1.32	-3.13
Brunei									
Darussalam	90.94	4.06	86.88	86.00	2.29	83.70	-4.94	-1.76	-3.18
Canada	42.41	1.06	41.35	45.13	0.70	44.42	2.72	-0.36	3.08
Chile	74.44	5.97	68.47	64.35	1.44	62.92	-10.09	-4.53	-5.56
China	49.90	8.40	41.50	34.92	4.07	30.85	-14.98	-4.32	-10.66
Hong Kong,									
China	57.54			56.22	0.00	56.22	-1.32		
Indonesia	63.03	4.70	58.34	63.46	4.14	59.32	0.42	-0.56	0.98
Japan	54.32	3.53	50.79	48.24	2.44	45.80	-6.08	-1.10	-4.99
Rep. of									
Korea	49.74			43.66	5.48	38.17	-6.09		
Malaysia	21.69	3.46	18.23		2.44			-1.02	
Mexico	50.16	3.61	46.55	49.15	1.14	48.00	-1.01	-2.47	1.46
New Zealand	77.85			78.11	3.77	74.33	0.25		
Papua New									
Guinea	88.81				0.90				
Peru	95.96			80.34	2.58	77.75	-15.63		
Philippines	57.26	3.01	54.25	58.56	2.17	56.40	1.31	-0.84	2.14
Russian									
Federation	60.99	4.96	56.04	53.38					
Thailand	47.12	6.76	40.36	39.72	4.03	35.69	-7.40	-2.73	-4.67
United States	46.47	3.23	43.24	44.57	2.09	42.48	-1.90	-1.14	-0.76
Viet Nam	65.14	11.48	53.66	49.39	7.45	41.94	-15.75	-4.03	-11.72

Table 4 shows that tariff reductions at home and overseas have played a significant role in lowering trade costs in a number of countries. However, there is also a group of countries for which non-tariff trade costs have fallen substantially. Four countries – Chile, China, Japan and Viet Nam – meet or exceed the 5 per cent target. Thailand comes quite close to doing so. Significant backsliding, in the sense of increases in non-tariff trade costs, is evident for Canada and the Philippines.

Unsurprisingly in light of table 4, regional average progress on non-tariff trade costs has been disappointing. Figure 5 shows at most a 1.5 per cent decline in non-tariff trade costs. The difference between the simple and GDP-weighted bases is insignificant in this case. Using the looser criterion of a 5 per cent reduction in trade costs compared with the 2001 baseline results is slightly more encouraging. (Due to data limitations, the overall situation in ASEAN is more difficult to assess. But the available evidence in table 5 suggests that trade facilitation – in the sense of reducing non-tariff trade costs – has played a relatively minor role. Only for Viet Nam is there evidence of a substantial fall in non-tariff trade costs. There is even some evidence of backsliding in other countries, particularly in the Philippines. Figure 6 shows that the non-tariff trade costs index has fallen from 100 to around 97 from 2001 to 2006, i.e. roughly a 3 per cent reduction.

Figure 5. APEC non-tariff trade costs vis-à-vis the world in percent ad valorem equivalent terms, simple and GDP weighted averages⁶⁵



Figure 6. Index of APEC non-tariff trade costs vis-à-vis the world, simple and GDP weighted averages (2001=100)⁶⁶



⁶⁵ Averages are calculated using a consistent sample, i.e. only those APEC member economies for which data are available over the full 1995-2008 period. The sample includes: Australia, Canada, Indonesia, Japan, Mexico, the Philippines, United States and Viet Nam.

⁶⁶ Averages are calculated using a consistent sample, i.e. only those APEC member economies for which data are available over the full 1995-2008 period. The sample includes: Australia, Canada, Indonesia, Japan, Mexico, the Philippines, the United States and Viet Nam.

Regional averages (figures 7 and 8) are difficult to interpret due the small number of countries (three), for which all required data are available. Although the two simple average curves suggest that there have been some reductions in non-tariff trade costs, the GDP-weighted averages are more suggestive of very little change having taken place. Analysing the graphs together with table 5 tends to indicate that whatever changes in non-tariff trade costs have taken place have probably been relatively minor.

Table 5. Changes in tariff and non-tariff trade costs in ASEAN, 2001-2006

	2001			2007			Absolute Change		
	Total	Tariff	Non-Tariff	Total	Tariff	Non-Tariff	Total	Tariff	Non-Tariff
Brunei									
Darussalam	90.94	4.06	86.88		2.00			-2.06	
Indonesia	63.16	4.71	58.45	63.13	3.74	59.40	-0.03	-0.98	0.95
Cambodia	98.36	11.46	86.90		8.99			-2.47	
Lao PDR		6.84			3.50			-3.34	
Myanmar		6.67			4.36			-2.30	
Malaysia	21.95	3.49	18.46	21.30	2.57	18.73	-0.65	-0.92	0.27
Philippines	57.31	3.01	54.30	61.46	2.67	58.79	4.15	-0.34	4.49
Thailand	47.27	6.81	40.46	40.27			-7.00		
Viet Nam	65.14	11.49	53.65	45.44	7.75	37.69	-19.71	-3.75	15.96

Figure 7. ASEAN non-tariff trade costs vis-à-vis the world in percent ad valorem equivalent terms, simple and GDP weighted averages

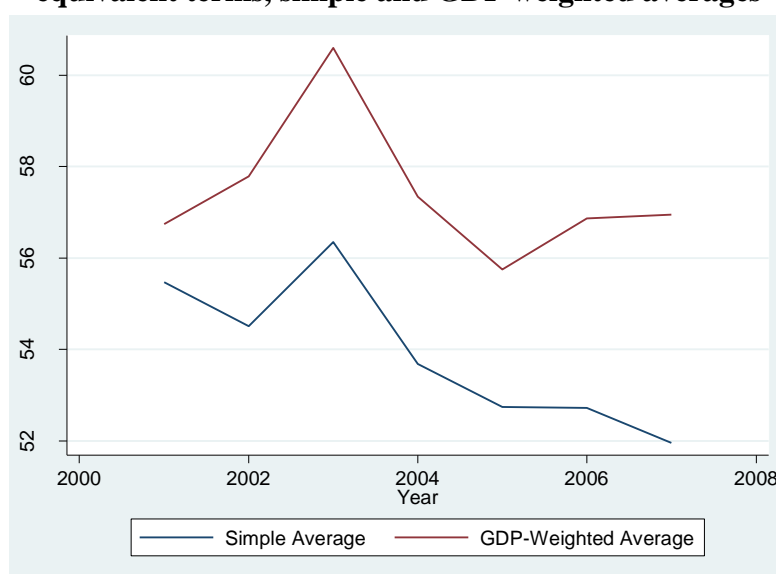
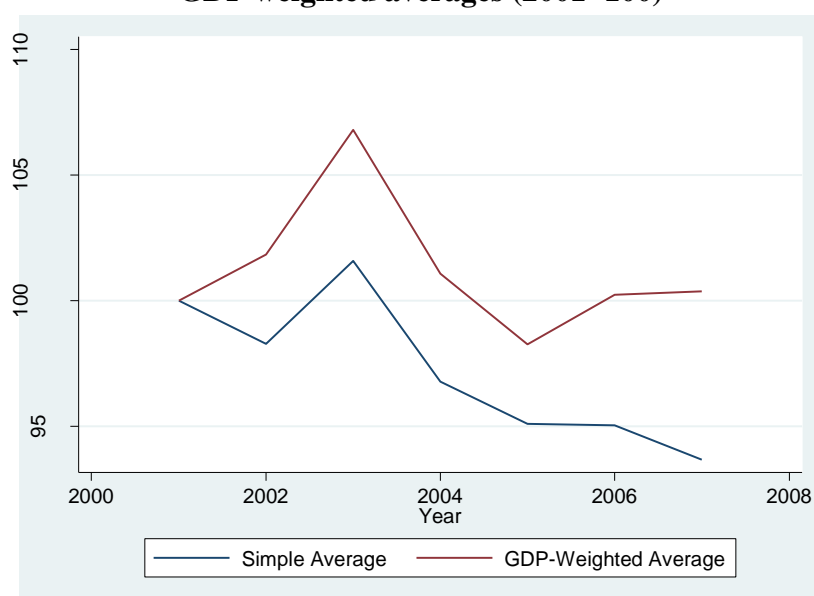


Figure 8. Index of ASEAN non-tariff trade costs vis-à-vis the world, simple and GDP weighted averages (2001=100)



C. Conclusions and policy implications

This paper has used a new theory-consistent methodology to provide some first measures of trade costs in APEC and ASEAN. The extent to which trade costs fall over time—and in particular, non-tariff trade costs – is an important metric of the success of trade facilitation programs. Previous analytical work shows that trade flows are sensitive to improvements in trade facilitation and provides an idea of the economic gains to be had. But this is the first ex post assessment of the success or otherwise of particular trade facilitation programmes. In particular, it is the first rigorous attempt to bring APEC’s Shanghai goal – a 5 per cent reduction in trade costs over five years – into contact with the data.

In the case of APEC, there is some evidence indicating that the Shanghai goal was more or less achieved on a regional average basis. However, individual country performance varies considerably. Some countries, such as China, Peru and Viet Nam, have experienced major reductions in trade costs, on the order of 15 per cent ad valorem, but others have essentially stayed still, or even regressed slightly.

In interpreting these results, it is important to keep in mind that changes in tariff policy seem to have a lot to do with the changes observed in overall levels of trade costs. Progress on non-tariff trade costs is generally much less impressive. In most cases, it falls well below the Shanghai target of 5 per cent in five years. This finding is important, since the 5 per cent goal relates to the “transaction costs of international trade”. It is a trade facilitation objective, not a tariff reduction objective. On this basis, it is difficult to conclude that APEC’s trade facilitation programme has been a complete success.

Results for ASEAN are harder to interpret, since data limitations are far more problematic. But as in the APEC case, there is some evidence of significant reductions in the level of overall trade costs. However, tariffs again seem to play an important role. There is little evidence of widespread reductions in non-tariff trade costs.

It is also important to keep in mind that results for both regions are based on aggregate GDP and trade flow data. Future research will need to use production data, rather than value added, in order to produce more accurate measures of trade costs. It will also be important to move from aggregate to sectoral data, to gauge the extent to which different product groups have benefitted, or otherwise, from increased attention to trade facilitation.

What do these results mean for the future of trade facilitation policies in the Asia-Pacific region? There are two main implications. Firstly, attention should be clearly focused on non-tariff trade costs and measures designed to reduce them. A broad approach to trade facilitation is essential, and is reflected in numerous APEC statements. But the evidence suggests that there might be a significant gap between intentions and implementation. Secondly, it is important to set up clear metrics by which progress on trade facilitation can be assessed. Taking APEC as an example, the IAP process and the mid-term review (Woo, 2004) focuses on inputs to trade facilitation rather than outputs. A country appears successful if it takes steps to implement a large number of measures. But not all measures are created equal. Some have much stronger economic impacts than others. Politically difficult though it may be some type of prioritization is required. Ideally, future progress reviews would include a quantitative assessment of the extent to which trade costs in the region have fallen over time.

In addition to the methodology adopted in this paper, there is now a wide variety of international data sources on trade facilitation. Examples include the *Doing Business* project, the World Bank's *Logistics Performance Index*, and the World Economic Forum's *Global Enabling Trade Index*. Although none of these measures gives a perfect picture of the trade facilitation environment, each of them provides some useful information. Their easy availability means that the private sector and civil society can also play a useful role in making sure that there is a closer match between intentions and implementation.

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Chapter VI

Beyond Trade Facilitation: Impact of the Domestic Business Environment on Export Competitiveness in Asia and the Pacific

By Yann Duval and Chorthip Utoktham⁶⁷

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 is on rationalizing procedures, this implies a need for policy makers to look beyond at-the-border trade procedures⁶⁸ 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.⁶⁹

⁶⁷ Yann Duval and Chorthip Utoktham, Trade and Investment Division, ESCAP. A previous version of this paper is published in the Staff Working Paper 02/09. The authors would like to thank Mia Mikic, Ben Shepherd and participants to the seminar on Emerging Trade Issues for Policymakers in Developing Countries of Asia and the Pacific, 4-6 March 2009, Manila, the Philippines for valuable comments on earlier version of the paper and models. The authors are also grateful to Ming Xu, an intern, in assistance on compilation of statistical data. The opinion figures and estimates are the responsibility of the author and should not be considered as reflecting the views or carrying the approval of the United Nations and ARTNeT members. The authors may be contacted at duvaly@un.org and utoktham@un.org.

⁶⁸ 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.

⁶⁹ 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).

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.⁷⁰ 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.

A. 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.⁷¹ 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.⁷² 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

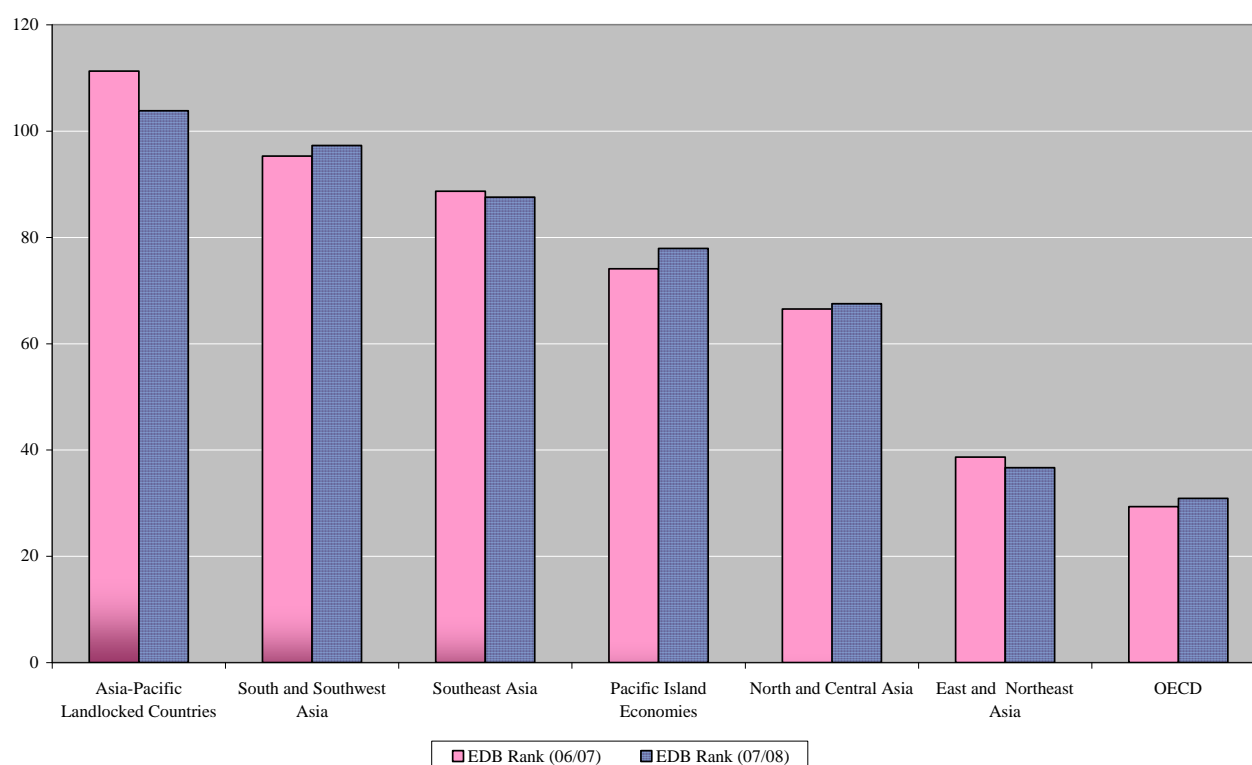
⁷⁰ While an emerging body of literature has thought to evaluate the importance of selected trade facilitation measures/areas, the inter-linkages between measures/areas have generally not been taken into account. Indeed, recommending that, for example, making ports more efficient be the top priority as 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).

⁷¹ Online access is available at <http://www.doingbusiness.org>. Details on methodology used for data collection and its limitations are available on the site.

⁷² The North and Central Asia subregion only includes Georgia and Russia as all other ESCAP member countries in that region are landlocked.

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.

Figure 1. Business Facilitation in Selected Subregions of Asia and the Pacific

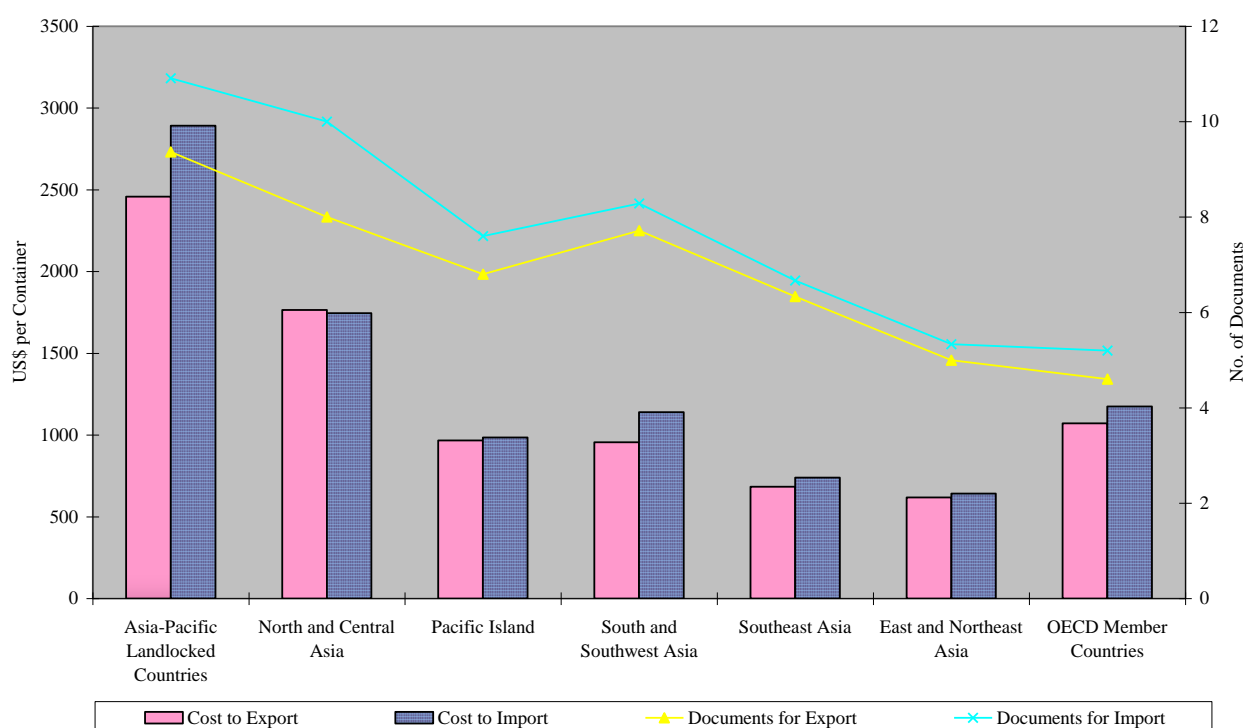


Source: Doing Business Report, the World Bank (<http://www.doingbusiness.org>)

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 documents⁷³ in all Asia-Pacific subregions is higher than for OECD as a group.⁷⁴ 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.⁷⁵

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

⁷³ 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>

⁷⁴ This is also true for the time needed for import and export, although this is not included in figure 2.

⁷⁵ 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.

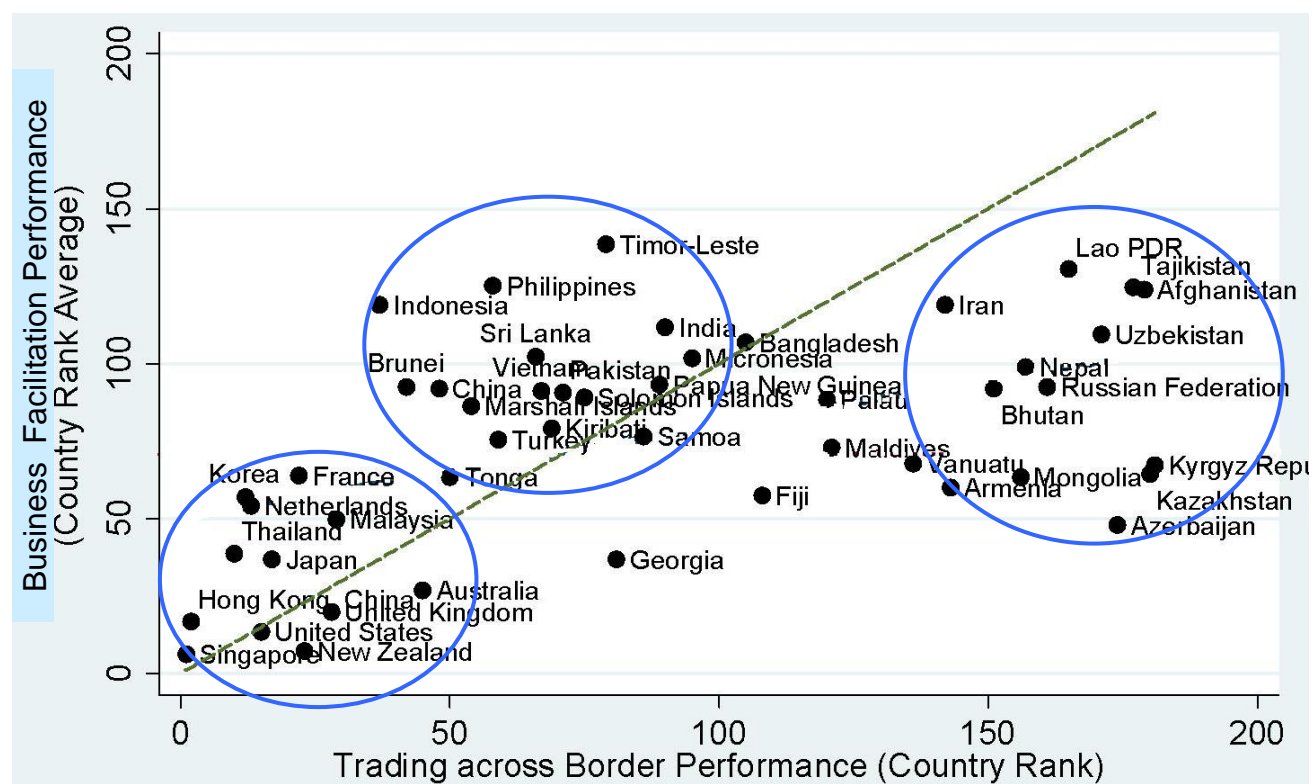
The average number of documents and time required is generally lower for exports than for imports. Again, East and Northeast Asia and Southeast Asia perform best among the five Asia-Pacific subregions considered, followed by Pacific Islands, South and Southwest Asia and North and Central Asia. Landlocked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

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 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.



B. How important is behind the border trade and business facilitation?

1. Methodology

There is increasing evidence that Behind the Border (BtB) policies matter for trade performance. Hoekman (2008)⁷⁶ 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 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:

⁷⁶ Global Monitoring Report 2008, Chapter 4 “Harnessing Trade for Inclusive and Sustainable Growth”.

$$IMPORT_{ij} = \beta_0 + \beta_1 CULT_{ij} + \beta_2 LANDLOCKED_{ij} + \beta_3 DISTANCE + \beta_4 GDPNOM_i + \beta_5 GDPNOM_j + \beta_6 COSTI_i + \beta_7 COSTE_j + \beta_8 BFP_i + \beta_9 BFP_j + \beta_{11} TARIFFW_2$$

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
TARIFFW _{2ij}	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 areas⁷⁷ 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).⁷⁸ 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).

⁷⁷ 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.

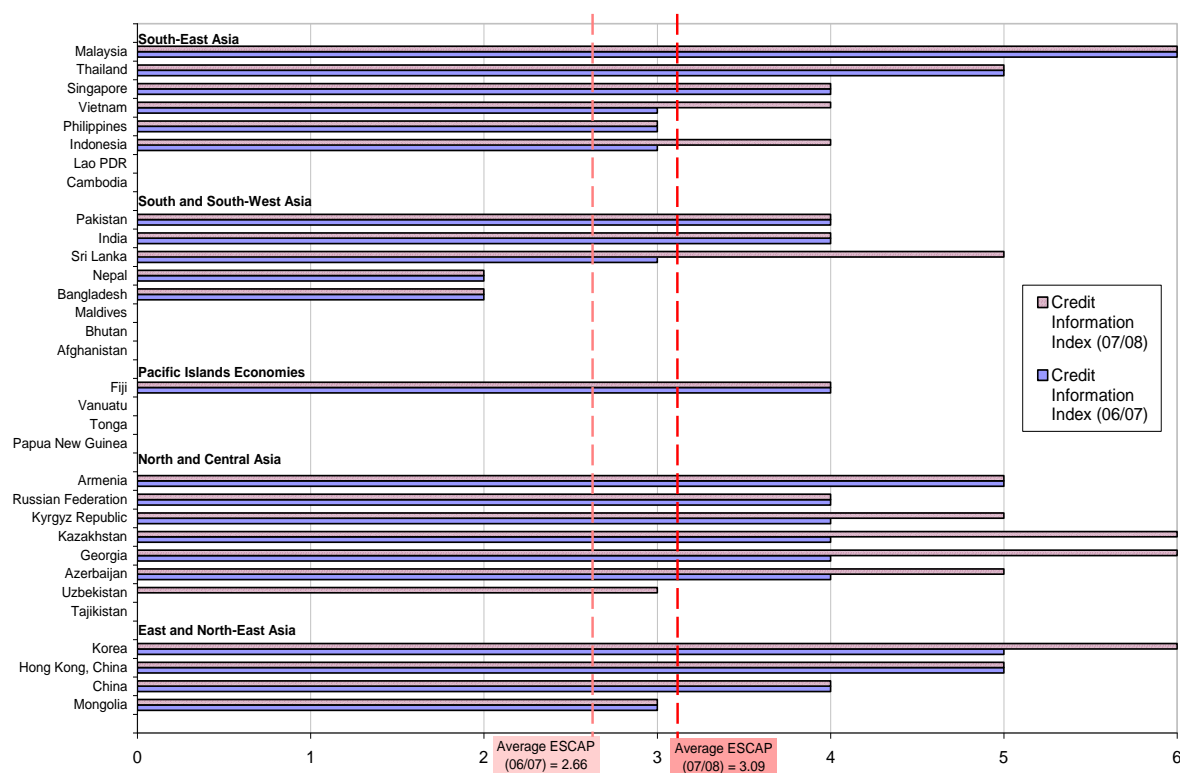
⁷⁸ In order to minimize multicollinearity problems and to retain interpretability of the coefficients, indicators representing each area are selected so that their correlations are below 0.5.

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.⁷⁹

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.

⁷⁹ 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.
contentforce_steps1 / contentforce_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>)

2. 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.⁸⁰

In contrast to the mixed significance of tariffs,⁸¹ 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.⁸² 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.⁸³

⁸⁰ Ratna (2009).

⁸¹ 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.

⁸² 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.

⁸³ 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*** [-17.35]	1.029*** [-16.74]	-1.170*** [-13.05]	1.195*** [-12.96]	-1.215*** [-9.375]	0.978*** [-9.882]	1.007*** [-8.351]	1.153*** [-8.614]
nomgdp1	0.949*** [44.02]	0.837*** [31.10]			0.765*** [15.30]	0.637*** [11.05]		
nomgdp2	1.140*** [34.75]	1.015*** [29.55]	1.019*** [30.16]	1.043*** [30.14]	1.198*** [21.11]	0.929*** [18.76]	0.882*** [15.53]	0.936*** [18.24]
costi1	0.322*** [-3.693]	0.292*** [-3.211]			-0.333 [-1.303]	-0.181 [-0.842]		
coste2	0.832*** [-7.789]	0.841*** [-7.768]	-0.842*** [-10.00]	0.781*** [-8.620]	-0.691*** [-2.673]	0.807*** [-3.586]	0.802*** [-3.545]	-0.668** [-2.821]
Tariffw	-0.842 [-1.407]	0.521 [1.034]	0.194 [0.224]	0.243 [0.299]	-2.182** [-2.214]	-1.345** [-2.110]	-1.568 [-1.158]	-1.651 [-1.310]
bfp1	0.414*** [-8.280]				-0.302*** [-3.439]			
bfp2	0.372*** [-6.819]				-0.572*** [-7.985]			
getloan_creditinfo1		1.107*** [5.904]				0.252 [0.892]		
investprotect_disclosure1		0.122 [0.789]				0.159 [0.632]		
contractenforce_steps1		1.260*** [-5.500]				1.575*** [-4.546]		
getloan_creditinfo2		0.486** [2.509]	0.469*** [3.006]	0.360** [2.483]		0.930*** [3.106]	1.059*** [3.533]	1.087*** [3.557]
investprotect_disclosure2		0.271*** [2.825]	0.405*** [5.462]	0.357*** [5.207]		0.103 [0.445]	0.127 [0.534]	0.0735 [0.330]
contractenforce_steps2		1.432*** [-6.619]	-1.471*** [-6.959]	1.183*** [-5.397]		1.559*** [-3.993]	1.637*** [-4.177]	-0.446 [-0.839]
Brci2				0.154*** [-3.435]				0.303*** [-4.737]
Contig	0.474 [1.160]	0.817*** [2.646]	0.697** [2.410]	0.738** [2.531]	0.795 [1.497]	1.104*** [2.641]	1.153** [2.565]	1.193** [2.639]
comlang_off	0.275*** [2.597]	0.397*** [4.075]	0.107 [0.886]	-0.000 [-0.003]	0.0502 [0.324]	-0.0906 [-0.617]	-0.128 [-0.928]	-0.245 [-1.595]
Comcol	0.476* [1.918]	0.157 [0.660]	0.365 [0.988]	0.36 [1.004]	-0.234 [-0.964]	-0.511** [-2.221]	-0.274 [-0.867]	-0.261 [-0.866]
landlocked12	-	-	-0.325**	-0.265**	-1.665***	-	-	-

	0.409***	0.534***			2.357***	2.568***	2.298***
	[-3.665]	[-3.947]	[-2.531]	[-2.158]	[-4.668]	[-7.881]	[-7.058]
	-			-			
Constant	7.462***	-0.17	-7.172***	7.969***	-3.785	7.101**	-2.425
	[-6.232]	[-0.116]	[-5.864]	[-6.698]	[-1.450]	[2.443]	[-0.950]
Observations	1314	1069	1189	1189	440	357	391
Adj. R-Squared	0.827	0.844	0.746	0.749	0.837	0.874	0.803
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 ongoing global financial crisis, where trade is further hampered because of the lack of information available on the creditworthiness of buyers (importers).⁸⁴ 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.⁸⁵ 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%.

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.

⁸⁴ 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.

⁸⁵ 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.

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.

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.

C. 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.,

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

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

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.⁸⁶ Countries that rank among the best in terms of Ease of Doing Business also tend to rank well in terms of business regulatory coherence.⁸⁷ 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.⁸⁸

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.

⁸⁶ 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.

⁸⁷ 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.

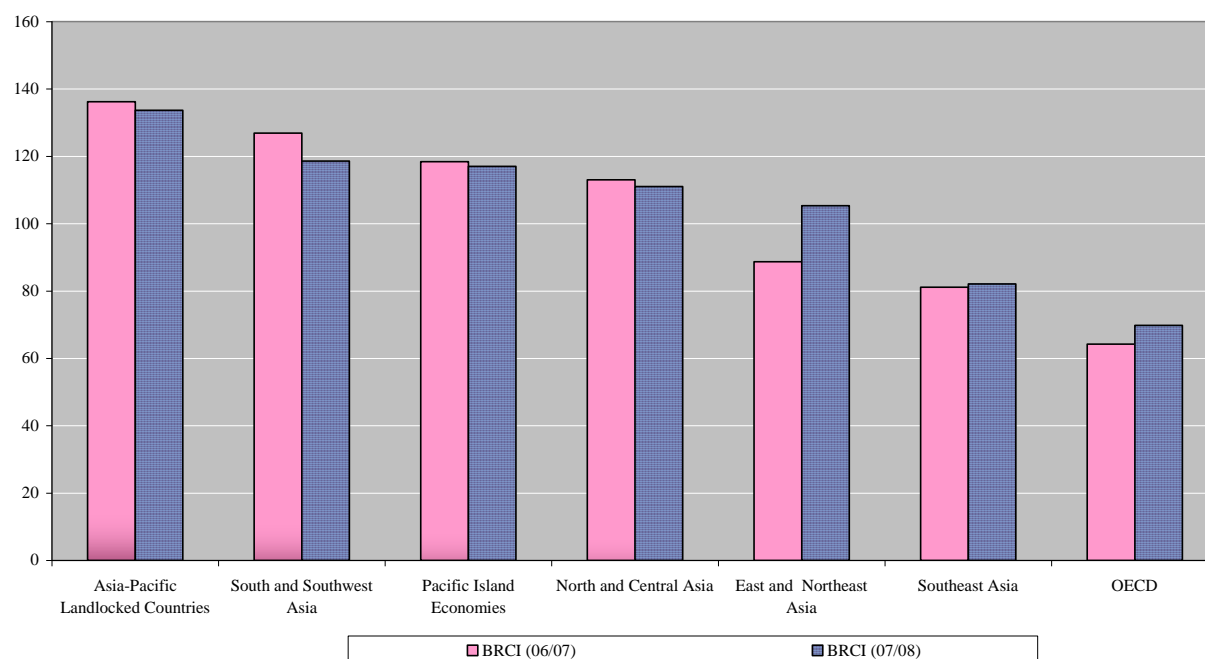
⁸⁸ The Republic of Korea in particular has become a reference or “best practice” in the area of e-trade facilitation, having developed one of the most advanced and successful electronic single window for sharing and processing of trade-related information and documents. See for example, Yang (2009).

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

Figure 4. Business Regulatory Coherence in Selected Subregions of Asia and the Pacific

(A lower rank denotes higher coherence)



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.

D. 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.⁸⁹

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.

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

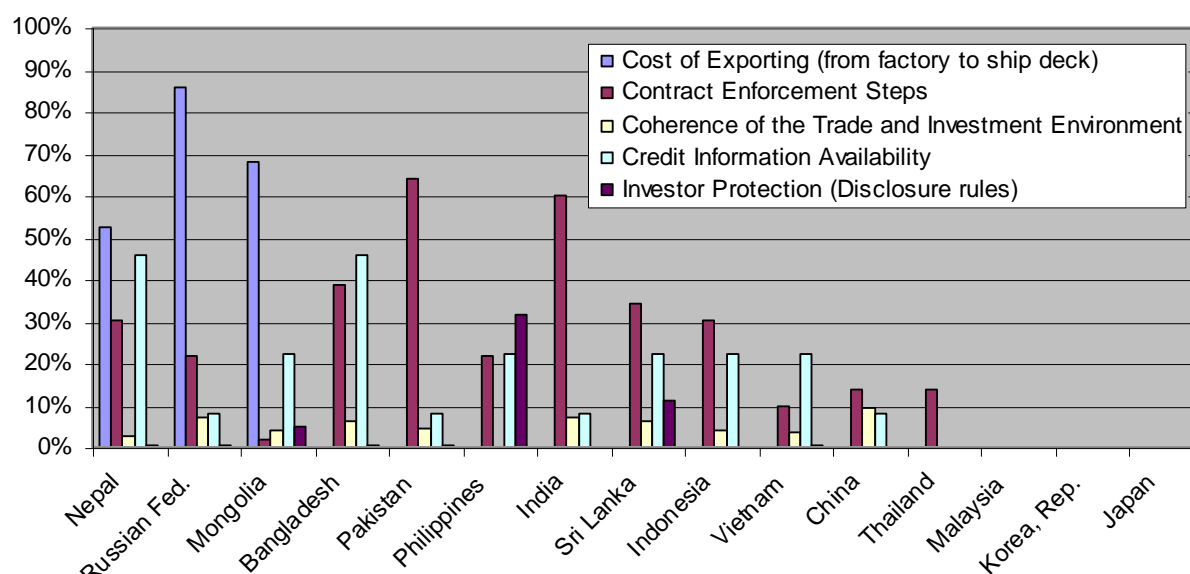
Areas of Improvement in exporting country	Implied average change in Asian countries (%)	Impact on bilateral import from exporting country (%)	
		All trade*	Intra regional and south-south trade**
Cost of Export	-13.79	13.5-14.5	11.1-14.0
Credit Markets (Depth of Credit Information)	27.79	14.2-16.2	33.2-35.6
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

⁸⁹ This type of simulation is reminiscent from those done in Wilson, Mann and Otsuki (2004), and Helble et al. (2007).

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.

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.

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.⁹⁰ This is illustrated in Figure 5,⁹¹ 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.

⁹⁰ 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.

⁹¹ Calculated using model B3 (all trade).

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.

E. 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.

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.

F. 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,⁹² the gravity model is a partial equilibrium model, i.e., it does not take into account economy-wide effects of changes in the factors 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.

⁹² Details of data collection methodology are available at www.doingbusiness.org.

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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)**

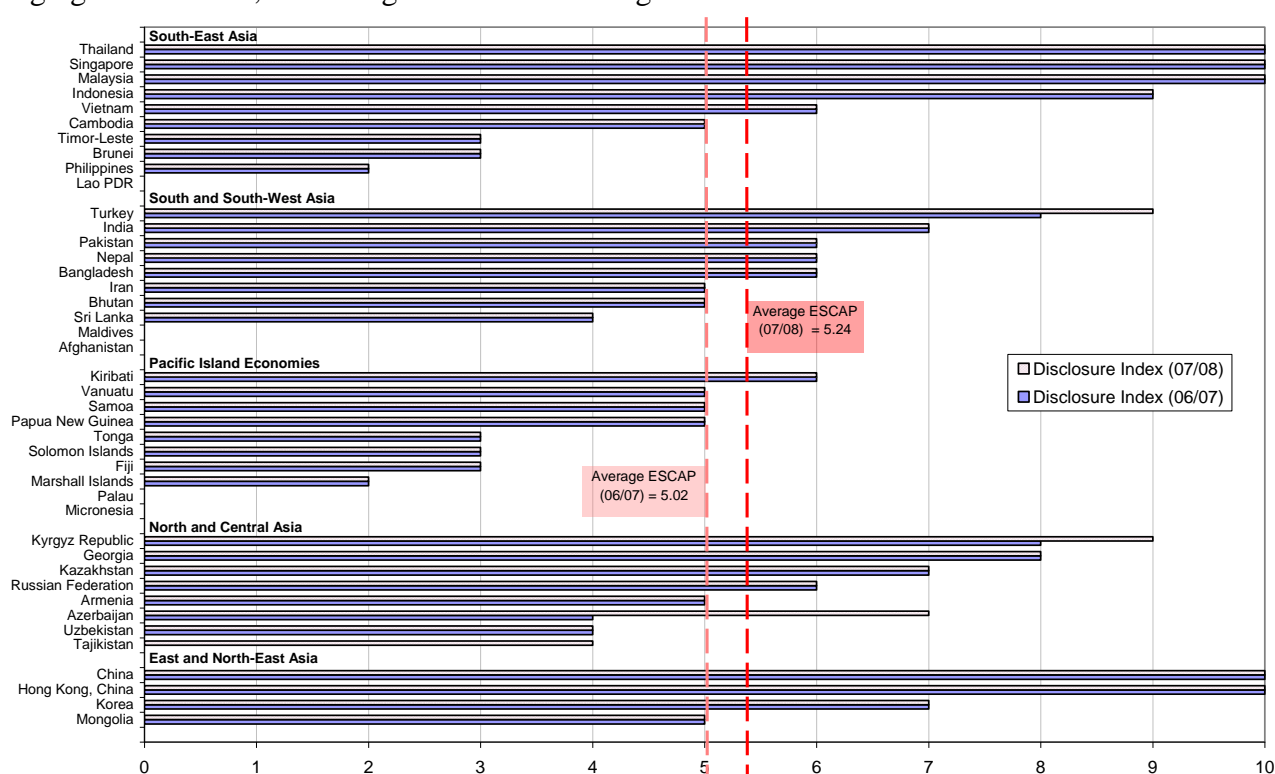
Economy	Ease of Doing Business Rank	Trading Across Borders (TAB) Rank	Average Rank, excluding TAB	Starting a Business	Dealing with Construction Permits	Employing Workers	Registering Property	Getting Credit	Protecting Investors	Paying Taxes	Enforcing Contracts	Closing a Business	EDB Variance of Rank
East 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

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
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
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.



Chapter VII

Unilateral carbon border measures: effectiveness and alternatives

By Swapna Nair⁹³

Introduction: Linkages between trade and climate change

The debates on climate change and trade have become intertwined over the last few years. The reasons for this are at least two. Firstly, there is an undeniable link between economic growth, international trade and carbon emissions.⁹⁴ Any attempt at dealing with climate change requires changes in growth and trade patterns. Second, an important element of climate change mitigation and adaptation is dissemination and transfer of technology which comes under the domain of trade and the protection of intellectual property rights. Complications arise in this debate on climate change and trade because it is rooted in the political economy, which gives rise to questions of fairness and accepting responsibility for past actions.

Climate change is a phenomenon that affects the entire world. Therefore, a multilateral agreement would be the best platform to deal with it. But the disparate interests of different countries and issues regarding the distribution of responsibility are likely to ensure that negotiating the terms of a multilateral agreement will be a long-drawn out process. Consequently, there is an increased tendency on the part of countries to adopt unilateral measures to deal with climate change. Many fear that these measures are likely to be unduly protective of domestic markets and this particular aspect is the focus of this paper. However, before turning to investigating the arguably protectionist use of “green measures”, it is necessary to explain the linkages between trade and climate change.

It is mainly through three effects – scale, composition and technique that trade and climate change linkages are determined.⁹⁵ An increase in the extent of trade and trade liberalization leads to an increase in the scale of production. This could, in turn, lead to an increase in the extent of greenhouse gas (GHG) emissions. This is referred to as the “scale effect”. Trade liberalization also tends to change the mix of a country’s production in terms of the commodities it has a comparative advantage in. Depending on whether these commodities are energy intensive or not, there is a change in the pattern of that country’s green house gas emissions. This is termed as the “composition effect”. Related to this concept is the “technique effect”. It is argued that trade liberalization could also lead to more environmentally friendly techniques of production being used. This can happen in

⁹³ The author would like to thank Professor Anwarul Hoda for useful comments and suggestions while drafting the paper.

⁹⁴ Excessive carbon dioxide emissions contributes to increased green house gases, which if accumulated beyond a point in the atmosphere, leads to global warming with disastrous effects.

⁹⁵ WTO (undated) “The multilateral trading system and climate change” available at http://www.wto.org/english/tratop_e/envir_e/climate_change_e.pdf

two ways. Trade liberalization might make available environmentally friendly goods, services and technology, either through technology transfer or through affordability as a result of falling prices. Alternatively, increased incomes which might occur because of trade liberalization, might lead to an increased demand for cleaner technology which would spur innovation and research.

The impact of trade and trade liberalization on climate change is unambiguous. Increased trade and production undoubtedly lead to increased carbon dioxide emissions. One way in which the adverse impacts can be minimized is through binding emission targets. This is where the international frameworks for climate change mitigation such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto protocol gain relevance. Recognizing that climate change would be a significant challenge to deal with, UNFCCC was formed in 1992 with the objective of stabilizing greenhouse gases in the atmosphere at a level that would not be harmful for the global system. In 1997, this was further specified in the Kyoto protocol, which for the first time defined binding emission reduction targets for developed countries (Annex 1 countries). The first commitment period will come to an end in 2012 and countries have been negotiating to decide upon how, post 2012, an agreement to tackle climate change should be formulated.⁹⁶ Though the Bali climate change conference in 2007 decided that a road map for this purpose would be set out in Copenhagen in December 2009, the Copenhagen Accord, a non-legally binding text which was the outcome of the negotiations in December, where the contours of a post Kyoto regime were being discussed, follows the principle of voluntary pledges of reduction commitments. These commitments fall short of the required commitment levels to meet the 2 degree Celsius target.

What is the extent of emission reductions envisaged? The 2007 Climate change synthesis report by the Intergovernmental Panel on Climate Change (IPCC) finds that global warming is unequivocal as is evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level. The report further argues that greenhouse gas increases as a result of anthropogenic activity over the last 50 years have led to this increasing global temperature. On the basis of this report and other scientific estimates, a global consensus that the rise in atmospheric temperature needs to be limited to around 2⁰ Celsius seems to be emerging.⁹⁷ In order to limit the rise in atmospheric temperature to around 2⁰ Celsius, the report suggests that compared to 1990 levels, industrialized countries might have to reduce their emissions by 25 to 40 per cent by 2020 and 80 to 95 per cent by 2050. The question is whether developed countries would be willing to bind themselves to these emission cuts and even if they are, would they be ready to legally bind themselves under the UNFCCC. This is the key question in the current debate on climate change and one of the major hurdles on reaching an agreement on the post-2012 scenario.

What about the role of developing countries in tackling climate change? Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of

⁹⁶ UNEP and WTO (2009).

⁹⁷ UNEP and WTO (2009). While it seems that there are different opinions on the acceptability of this level everywhere (e.g. Dr Pachauri has stated in an interview that the relative danger even at 2 degree Celsius would be different in different regions), it seems that 2°C has been accepted as a benchmark.

industrial activity, the protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.” Under this principle, developing countries have been exempted from legally binding their emissions. This flexibility or differentiated responsibility, which is given to developing countries, causes unease among developed countries.

Given that these hurdles have to be resolved, there is a very low possibility for an international accord on climate change for the period post 2012 to come into force in the near future. In this context, many economies, particularly developed ones, seem to be proposing unilateral measures to deal with climate change. These unilateral measures are mainly in the form of domestic action plans to curb emissions. Their relevance to trade arises when these action plans include proposals to impose border measures that seek to penalize, through tariff or other measures, products imported from other countries that do not impose stringent emission standards.

Where do these measures fit into the trade and climate change linkage? Given that different economies might have different emission targets in the absence of an international agreement on climate change, unilateral border measures aim to provide market signals which lead to the economies having less stringent standards, adopt standards that are similar to those in which stricter measures are implemented. The objective is to counter both the GHG leakage effect and loss of competitiveness of domestic commodities. The danger, of course, is that these measures could end up being non-tariff barriers or subtle attempts at protectionism. These measures basically aim to interact with the technique and composition effect of trade on climate change. By forcing the exporting countries to adopt stronger emission norms, the proposed outcome is that the technique of production would end up being cleaner or more environmentally friendly. Alternatively, as a result of these measures, the composition of production might change more in favour of environmentally friendly goods and services. But the fundamental question is whether this is, in fact, the objective behind the proposed regulations and whether the measures will actually lower GHG emissions. The concern, as mentioned earlier, is whether these measures are just a new form of green protectionism, which is protectionism under the guise of environmentally friendly or climate change-mitigating measures. One way to assess whether border measures are protectionist or not, may be to examine whether they meet two requirements. Firstly, how compatible are the proposed measures with international regulations on climate change and trade? This would mainly be legal compatibility with the UNFCCC and the GATT/WTO. Secondly and more importantly, will these measures indeed lead to the expected outcome of lowering the GHG emissions of trading partners? Furthermore, are there more efficient ways (i.e. without distorting trade) of bringing about this outcome?

This paper analyses border measures from these two perspectives. The structure of the paper is as follows: section A outlines the rationale behind carbon border measures and the ways in which they could be imposed. Section B discusses, in brief, the proposed European Union and the United States measures. Section C outlines the regulations under the UNFCCC and the Kyoto protocol that might be relevant to the climate change debate and their implications for carbon border measures. This section also discusses the probable impact that these measures would have in terms of reducing GHG emissions. Section D discusses briefly the technology transfer aspects that have an undeniable link to any discussions on carbon measures and reduction of GHG emissions and concludes with some policy recommendations.

A. The rationale behind unilateral border measures

Climate change is a phenomenon that affects the global commons and hence it is argued that the ideal way to deal with it is through multilateral efforts. But the delay in a multilateral deal being signed is leading many economies to propose domestic action plans aimed at dealing with climate change and GHG emissions. Stringent emission norms imposed domestically as part of these domestic plans might lead to two concerns – leakage of GHG emissions to other countries that do not have similarly stringent norms and concerns of loss of competitiveness of domestic products vis-à-vis foreign commodities. In order to deal with these concerns, a few developed countries are proposing carbon border measures in their domestic legislations to deal with climate change.

There are various ways in which carbon border measures could be imposed. Border carbon adjustments could be in the form of fiscal measure which raises the price of the imported commodity to the level it would have cost if produced domestically with the emission norms. It could also be accompanied by rebates/subsidies that are provided to exporters within the economy.

Alternatively, adjustments could be in the nature of requirements to buy emission allowances and, thus, submitting producers outside to adhere to the same standards that are prescribed for domestic producers. Most domestic regulations on reducing emissions are in the form of a cap and trade system. This works in the following manner. The authority imposes a cap on the extent of emissions for particular industries or sectors. The Government then issues a certain number of allowances of emissions in accordance with the limits imposed. These allowances would either be freely allocated or could be auctioned out. Between industries/sectors, there can be trade in emission allowances depending on the extent of use.

Leakage of emissions occur when a policy that raises the price of carbon - intensive domestic goods causes domestic production to shift abroad, thus undermining the policy's effect on reducing global greenhouse gas (GHG) levels. This kind of leakage can occur in two ways. By shifting production elsewhere, emissions are no longer under the domestic emissions cap imposed by the border measure imposing country. Hence, there arises space for further emissions within the economy that might be taken up by other industries/sectors. Production facilities that have shifted elsewhere might be carbon intensive and hence increase the extent of emissions. Leakage also may occur as a result of reduced domestic demand for fossil fuel products, which depresses fuel prices in the global market and leads to an increased consumption of carbon intensive commodities.⁹⁸

Competitiveness concerns arise because of the increase in production costs that might occur as a result of the domestic carbon policies imposed by a country. Rising production costs could result in a loss of competitiveness vis-à-vis products imported from a country with less stringent norms and, consequently, lower production costs.⁹⁹

⁹⁸ Policy Department Economic and Scientific Policy, 2008.

⁹⁹ Bordoff, 2008.

The leakage and competitiveness concerns are linked. Border adjustment measures by imposing a price on imports from economies which do not have emission norms similar to the adjustment measure imposing economy, try to equalize competitiveness and reduce leakage. It is argued that imposing carbon border measures could reduce the threat of competitiveness erosion by forcing foreign goods to internalize the environmental costs of carbon emission and thus raise their prices vis-à-vis domestic commodities and therefore not act as a threat. Further, it is argued that the threat of carbon emissions might also lead to the developing countries accepting stronger domestic emission norms.

Border adjustment measures are currently being proposed by both the European and the United States and these measures are primarily in the form of requirements to buy emission allowances subject to a cap and trade system. The next section briefly discusses these measures.

B. Border measures proposed by the European Union and the United States

1. The European Union emission trading system and recent proposals for expansion

In the Kyoto protocol, the European Union agreed to cut down its emissions relative to the 1990 level by 8 per cent during the period 2008-2012. With this objective in mind, the European adopted the Emission Trading System (ETS) in 2008. Under this, more than 10,000 industrial plants were required to impose binding, absolute caps on CO² emissions on facilities in energy activities, the production, and processing of ferrous and non-ferrous metals, the mineral industry, and pulp, paper and board production.¹⁰⁰ In 2008, the European Commission has submitted proposals to enhance the effectiveness of the emissions trading system. This included proposals for an amendment of the emissions trading directive. A new provision designed to “support certain energy intensive industries in the event of carbon leakage” was also included in these proposals, mandating the Commission to submit, by June 2011, an analytical report assessing the situation of energy-intensive sectors “exposed to significant risks of carbon leakage.” These proposals mention new provisions to support certain energy intensive sectors in the instance of leakage by providing them with a higher amount of free allocation of emission allowances. These also mention setting up a carbon equalization system to put institutions within the European Union which are at a significant risk of carbon leakage and those from third countries on a comparable footing. These proposals have been met with concern by the European Union’s trading partners.¹⁰¹

In December 2009 an ETS directive was released identifying sectors prone to carbon leakage. The sectors were identified on the basis of three different sets of criteria:

Criteria 1: The extent to which the implementation of the directive would lead to a substantial increase of production cost of at least 5 per cent; and the non-European Union trade intensity is above 10 per cent.

Criteria 2: If the increase in production costs, as a result of direct and indirect costs related to implementation, would be at least 30 per cent.

¹⁰⁰ Klepper and Peterson, 2004.

¹⁰¹ Diarmuid and Gueye, 2009.

Criteria 3: If the trade intensity of that particular sector is above 30 per cent.

The European Union directive identifies 164 sectors at a four digit NACE level. The interesting fact is that 117 out of these 164 sectors have been benchmarked on the basis of trade intensity (criteria 3). This is an aspect that raises concerns on the intent of the proposed European Union measures being protectionist.

2. The United States legislation

The United States has not ratified the Kyoto protocol and, hence, has not made any formal commitments on binding its emissions. The United States has been pushing quite aggressively for domestic climate change legislation in recent years. The Lieberman-Warner Bill (2008) and the Boxer amendment proposed are the basis for the current debates on climate change legislation, though neither of these garnered much support within the United States. The bill proposed a cap and trade system with binding limits on carbon emissions from 2012 onwards. The bill that is being currently debated is the American Clean Energy and Security Act, alternatively known as the Waxman-Markey bill. The objective of this bill is to steadily reduce United States GHG emissions such that the emissions in 2012, 2020, 2030 and 2050 do not exceed 97 per cent, 80 per cent, 58 per cent and 17 per cent of the emissions in 2005. The manner in which the bill proposes to do this is by a cap and trade system with binding limits on carbon emissions. The draft sets both a non-binding economy-wide GHG emission reduction goal as well as a mandatory cap on certain greenhouse gases. Domestically, the bill aims at distributing allowances through auctions. The bill also has options for the covered entities to satisfy a certain percentage of their emission reduction compliances using offsets, both domestic and international. In order to address leakage and competitiveness concerns, the bill proposes an output based rebating (OBR) model of providing rebates to carbon-intense manufacturers. Sectors are presumed eligible if they meet 5 per cent energy or GHG intensity threshold and 15 per cent trade intensity. Each sector is rebated at 85 per cent of the sector's average direct and indirect emissions cost. Rebates are phased out beginning in 2020, unless presidential review determines that other countries have not yet taken substantial action and leakage concerns persist. Further, by June 2017, the President will report on competitiveness implications of climate policy and effectiveness of OBR provisions.¹⁰²

By 2017, the President is required to submit a report on the efficacy of the industrial emission allowance system and on whether and by how much the per unit cost of production has increased as a result of compliance with the system. Further if, by January 2018, no multilateral agreement has been put in place, the President is required to establish an international emissions allowance system. Under this system, the President shall determine whether, in each eligible industrial sector, more than 85 per cent of United States imports of covered goods with respect to that sector are produced or manufactured in countries that have met at least one of the following criteria:

The country is party to an international agreement to which the United States is a party that includes a nationally enforceable and economy wide greenhouse gas emissions reduction commitment for that country that is at least as stringent as that of the United States;

¹⁰² Larsen, Kelly and Heilmayr, 2009.

The country is a party to a multilateral or bilateral emission reduction agreement for that sector to which the United States is a party;
 The country has an annual energy or greenhouse gas intensity for the sector that is equal to or less than the energy or greenhouse gas intensity for such industrial sector in the United States.

In order to reduce the direct and indirect costs of complying with the bill, the international reserve allowance programme would allow the sale, exchange, purchase transfer and banking of international reserve allowances for covered goods that are imported with respect to the eligible industrial sector. It would ensure that the price of the purchase of international allowances is the same as the auction price for domestic allowances. It would also establish by then a methodology which would calculate the extent of emissions that every importer of the covered good must submit.

The international reserve allowance programme, which make it necessary for importers of commodities produced outside the United States to buy allowances and the output rebate programme that would rebate carbon intensive goods produced for exports are the provisions of the bill that have attracted criticism.¹⁰³

C. Legal, economic and environmental implications of border adjustment measures

As mentioned earlier, an assessment of the protectionist intentions or impact of the border adjustment measures requires examination in terms of their legal compatibility with the international regulations and their economic and environmental effectiveness in terms of the stated objectives.

1. Legal compatibility

The UNFCCC aimed to stabilize GHG emissions at a level that would prevent dangerous anthropogenic interference with the climate system in a given time frame. The time frame adopted was sufficient to allow ecosystems to adapt naturally to climate change and ensure sustainable economic development. Article 3 of the UNFCCC lays down the principles that were to guide parties to the convention to achieve this objective. Article 3.1 states that the parties should protect the climate system in accordance with their common but differentiated responsibilities. This is the key principle of the UNFCCC which recognizes that developed countries should take the lead in combating climate change given the historical nature of emissions. In fact, this principle is what provides the bases for Annex 1 countries binding their emissions while developing countries retain the flexibility not to do so. Further, article 3.4 mentions that policies and measures to protect the climate system should be appropriate for the specific conditions of each party and should be integrated with national development programmes. This takes into account the fact that economic development is essential for adopting measures to address climate change. Article 3.5 specifies that measures taken to combat climate change, including

¹⁰³ Discussion draft on The American Clean Energy and Security Act, March 2009 available at

http://energycommerce.house.gov/Press_111/20090331/acesa_discussiondraft.pdf.

unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

The compatibility of border adjustment measures with the UNFCCC relates to the principles that underline it and hence these measures have to be seen in conjunction with the abovementioned articles. Most unilateral measures that are proposed do not take into account the question of differentiated responsibilities between developing and developed countries. The carbon embodiment of the commodities that enter is the sole point of differentiation, the legality of which is in question under WTO. This is true in the case of both the United States Waxman-Markey bill and also the European ETS.

To be compatible with the principle stated in article 3.5, the border measures should not be unjustifiable or a disguised restriction on international trade. This is where the relevance of WTO comes in. The way in which it would be determined whether a border measure is “unjustifiable or a disguised trade measure” is by looking at whether it is compatible with the WTO provisions, particularly the General Agreement on Tariffs and Trade (GATT) Articles 1, 2 and 3.

According to Article 1 of GATT, every member is required to provide every other member the Most Favored Nation (MFN) status. Therefore, with respect to customs duties and charges of any kind imposed on imports or exports and with respect to the method of levying and all rules in relation, if any advantage or favour is granted by any of the contracting parties to any product originating in any country, the same shall be extended to the like product originating in all other contracting parties. The issue that arises is whether border measures, by imposing adjustment requirements on some economies but not on others would violate this. Article 2 of GATT refers to the schedule of concessions and mentions that in fixing the level of customs duties that WTO members may impose on imports, they are also committed not to impose additional customs duties or any other duties or charges of any kind. The question in relation to this article is whether border measures would fall in the category of other duties or charges. Article 3 of GATT outlines the principle of national treatment and states that the contracting parties recognize that internal taxes and other internal charges, and laws, regulations and requirements affecting the internal sale, offering for sale, purchase, transportation, distribution or use of products, and internal quantitative regulations requiring the mixture, processing or use of products in specified amounts or proportions, should not be applied to imported or domestic products so as to afford protection to domestic production. If border measures imposed a different requirement on imported goods in relation to domestic goods, they could violate this article.¹⁰⁴

Those who think that border measures are compatible with WTO argue that Article XX of GATT provides for the use of such measures. Article XX lays out general exceptions to GATT rules and cites specific instances when WTO members can avail of these exceptions. The notable exceptions that are used to defend border measures are exceptions which are necessary to protect human, animal or plant life or health (XX(b)) and those relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption (XX(g)).

¹⁰⁴ General Agreement on Tariffs and Trade (GATT 1947) and Janzen, 2009.

What do past WTO disputes tell us? WTO case law does not formally benefit from the principle of “stare decisis” and, therefore, is neither binding nor precedent setting. However, it is argued that dispute settlement bodies have relied upon previous decisions with a consistency that gives them a high degree of legal authority.¹⁰⁵ Hence it would be important to look at the two cases that seem to be most relevant and quoted with respect to border measures – the shrimp-turtle case and the Brazil tire case.

The shrimp turtle dispute arose when the United States issued an import embargo against shrimp and shrimp products harvested with commercial fishing technology harmful to sea turtles. This decision was challenged in WTO by four developing countries – India, Malaysia, Pakistan and Thailand. It was argued by these countries that the United States embargo on shrimp and shrimp products was inconsistent with the MFN principle because physically identical shrimp and shrimp products from different nations were treated differently by the United States upon importation based solely on the method of harvest and the policies of the foreign government under whose jurisdiction the shrimp were harvested. The appellate body in its decision on the dispute found that although the United States import ban was related to the conservation of exhaustible natural resources and, thus, covered by Article XX (g) exception, it could not be justified under Article XX because the ban constituted “arbitrary and unjustifiable” discrimination under the chapeau of Article XX. The chapeau of Article XX says that the general exceptions under this article are subject to the requirement that such measures are not applied in a manner which would constitute arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or there is a disguised restriction on international trade. The United States had provided countries in the western hemisphere — mainly in the Caribbean — technical and financial assistance and longer transition periods for their fishermen to start using turtle-excluder devices. It did not give the same advantages, however, to the four Asian countries.¹⁰⁶

In the Brazil tyre dispute the appellate body also had similar findings. This dispute was between the European Union and Brazil on Brazil’s import ban on retreaded tires on the basis of health reasons. The Appellate Body found that the import ban was provisionally justified as “necessary” within the meaning of Article XX (b) but could not be justified under this article since the ban was being applied in a manner that constituted arbitrary or unjustifiable discrimination and constituted a disguised restriction on international trade within the meaning of the chapeau of Article XX.

Both these dispute rulings have similar implications. The sequence of steps that both have been used to assess whether a border measure is compatible or not, is by first assessing whether a measure can be provisionally justified as one of the categories under paragraphs (a)-(j), and, then, to further appraise the same measure under the Article XX chapeau. Therefore, border measures could be argued by those who impose it to be compatible with WTO under Article XX but whether or not it could be justified under the chapeau of Article XX would depend on the way in which these measures would be imposed. What is evident though from the earlier disputes, is that any imposition of border measures could raise disputes within WTO from members on whom it is imposed. Legal compatibility would depend on the way in which the law is interpreted when the

¹⁰⁵ Potts, 2008.

¹⁰⁶ http://www.wto.org/english/tratop_e/envir_e/edis08_e.htm.

dispute arises. But whether the imposition would be in the true spirit of multilateralism and also differential treatment for developing countries is the key question.

How effective would these measures be in terms of preventing leakage of GHG emissions and in addressing competitive concerns? This is what the next section focuses on.

2. Economic and environmental implications

Competitiveness concerns which arise as a result of imposing unilateral climate change policies would be taken care of when the cost of carbon emissions are internalized in import prices. To obtain a clear picture, the ideal way would be to simulate imposition of taxes and project whether this happens. Though this is envisioned as the next step, this paper does not include estimates on this. Instead, taking the proposed United States measure as an example, the extent of energy intensive exports to the United States from the major developing countries (Brazil, South Africa, India and China or BASIC) as a share of their total exports to the world is calculated. Table 1 depicts this.

Table 1. Exports of BASIC economies to the United States in energy intensive categories as a share of their exports to the world (per cent)

SITC category		Brazil	South Africa	China	India
24	Wood, lumber and cork	35.52	1.01	26.29	6.72
25	Pulp and paper	20.20	5.33	13.22	9.57
26	Textile fibers, not manufactured, a	1.12	1.19	11.28	1.23
27	Crude fertilizers and crude mineral	9.08	6.45	15.34	4.86
28	Metalliferous ores and metal scrap	1.87	3.65	0.42	0.02
29	Crude animal and vegetable material	8.01	3.98	13.51	37.04
33	Petroleum and petroleum products	26.51	1.47	7.57	0.75
61	Leather, lthr. manufs., nes & dress	12.18	17.37	14.61	2.53
62	Rubber manufactures, nes	21.98	7.59	27.11	8.78
64	Paper, paperboard and manufactures	13.91	0.19	19.24	7.56
65	Textile yarn, fabrics, made-up articles	24.60	9.48	10.06	16.91
67	Iron and steel	23.89	12.48	7.22	17.15
68	Non-ferrous metals	11.08	19.31	9.47	1.62
69	Manufactures of metal, nes	14.28	2.99	20.86	14.26
71	Machinery, other than electric	18.26	7.16	21.51	16.66
72	Electrical machinery, apparatus and	18.29	3.84	16.17	16.33
73	Transport equipment	18.92	24.11	13.30	7.15

Source: WITS database, Author's calculations.

It can be seen that the share of exports from these economies to the United States are not significant. So in essence the border measures would not have a major role to play in terms of internalizing carbon prices into the prices of these commodities produced in these economies. More importantly, United States imports of these commodities might not have much of an impact on the competitiveness of United States domestic products.

These figures also have implications for leakage reduction objectives. If the extent of trade in the energy intensive commodities with the United States is not very high for developing countries, then the probability that the United States would impose border measures to reduce GHG emissions by these countries is likely to be very low. Further, a sectoral analysis of carbon dioxide emissions shows that the maximum emissions across sectors are from the United States itself. In comparison, emissions from the developing countries are rather negligible. It also shows that the sectors in which emissions are high in developing countries are mainly of a non-tradable nature and hence, immune to border measures.

A study by McKibbin, Morris and Wilcoxon (2009) on the basis of simulations finds that though border adjustments would be effective in reducing emission leakages, the impact is very low because the extent of leakage is very small. Further, much of the emissions gain that may occur will come about because the imposition of tariffs or border measures might reduce world GDP through the overall reduction in international trade. They also find that because the adjustments are small, they have little effect on import-competing industries and, hence, conclude that the benefits produced by border adjustments of trade goods and services would be small and are unlikely to justify their administrative complexity or their negative effects on international trade.

Table 2. Sectoral emissions of carbon dioxide across selected economies (MtCO₂e)

MtCO ₂ e	World	United States	India	China	European Union	Brazil	South Africa
	Total MtCo ₂ e						
Energy	26,371.50	5,841.30	1,149.40	5,059.90	3,979.40	333.7	330.6
Electricity & heat	12,307.20	2,743.60	694.8	2,669.40	1,616.50	58.6	210.5
Manufacturing & construction	5,184.00	636	243.4	1,592.60	661.4	99.5	51.2
Transportation	5,378.00	1,813.30	97.5	332.1	953.8	137.1	42.9
Other fuel combustion	3,308.10	624	111.8	465.8	744.2	34.1	25.7
Fugitive emissions	194.2	24.3	1.9	--	3.5	4.5	0.3
Industrial processes	1,154.20	50.3	72.3	517.4	122.9	18.3	6.5
Total	27,525.70	5,891.60	1,221.60	5,577.30	4,102.30	352	337.1

Source: World Resources Institute.

Another aspect which needs to be looked at is if border measures are imposed how adversely could the exports of the BASIC economies be affected in the energy intensive sectors or those sectors that have been listed vulnerable or leakage prone by the United States/European Union. For this we follow the following methodology: we initially matched ISIC classification to the four digit NACE categories (for the European Union, since ETS identifies categories in this classification) and the two digit HS categories (for the United States, since the United States draft bill identifies broad categories) and look at the trade data for the BASIC economies. For both the European Union and the United States we then calculated share of imports from the BASIC economies. If the share is 5 per cent or more we identify those sectors in the BASIC economies as potential targets.

Annex 1 provides details of the sectors in each of the BASIC economies that have been identified as vulnerable. But roughly the sectors include: for India, iron and steel, and textiles, carpets and rugs, for Brazil, paper and paper pulp, iron and steel-manufacture and mining, for South Africa, ores and mining, and for China many manufacturing sectors including tools, toys, iron and steel, and plastics. Of course unless one looks at the GHG intensities the picture is not completely clear. A detailed analysis would have to be carried out as the next step to get a better picture but preliminary analysis indicates that these sectors could be at risk since one of the criteria's for identification of leakage prone sectors is trade intensity.

D. Border adjustments measures, technology transfer and the way ahead

If the objective of border measures is indeed to reduce GHG emissions, then there are better ways to achieve this than by imposing undue restrictions on trade. In fact, the key to resolving the problem of climate change and increasing GHG emissions could be dissemination of technology required for climate change adaptation and mitigation.

Dissemination and transfer of technology at a faster pace than what is currently happening now is what is required in order to make the world adopt cleaner technology that reduces emissions. However, there are certain hurdles that have to be crossed. For instance, one issue that arises is how to ensure returns to the patent holders of clean technology if they are to be disseminated or transferred to developing economies at a cheaper rate or within a shorter time period. This is a valid concern. After all, intellectual property protection is required if innovation is to happen. But given the fact that climate change is a serious issue that stands to affect not just one economy but the entire world, it is necessary to engage in actions which might be unprecedented. This does not mean that technology should be made free but it does imply that less stringent norms and more efficient means of transfer have to be adopted.

Three interesting and technically feasible plans being proposed currently are using the flexibility of compulsory licensing, creating a common pool of global technology for climate change¹⁰⁷ and encouraging more investment in developing countries through clean development mechanisms.

¹⁰⁷ UNFCCC, "Report of the Ad Hoc Working group on Long-term Cooperative action under the Convention", resumed seventh session, Barcelona, 2-6 November, Non-paper No. 42.

Compulsory licensing of clean technology patents could provide Governments the flexibility to obtain patent rights to produce otherwise protected technology for distribution in the market. The patent holder who might be in a developed economy could be provided a certain amount of fair royalty. The flexibility of compulsory licensing exists currently under the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS), subject to certain conditions of national emergencies. Climate change could be justified as such an emergency which would have global implications.

The Ad Hoc Working Group on Long-Term Cooperative Action has proposed a common pool of technology for climate change. India had also, in a similar vein, proposed an international network of climate innovation centers modeled on the Consultative Group on International Agricultural Research (CGIAR).¹⁰⁸ Governments could play a twofold role here. They could obtain patent rights of technology developed within their economies without the rights holder suffering losses and make these technologies available globally. The burden of the cost would therefore fall on the Government and not on the patent holder. Second, Governments could, depending on their individual capabilities, put together a pool of money to finance clean technology research which could then be made freely available.

Finally, along with these two options, increased investment internationally by economies in the clean development mechanism (CDM) would be also extremely beneficial. CDM, defined in Article 12 of the Kyoto protocol, allows a country with an emission-reduction or emission-limitation commitment under the protocol to implement an emission-reduction project in developing countries. Such projects can earn saleable certified emission reduction (CER) credits, each equivalent to one tonne of CO₂, which can be counted towards meeting Kyoto targets. CDM seems to be a win-win situation with developed economies gaining concessions in their emission allowances and developing economies acquiring environment friendly technology.

While these offer ways to mitigate and adapt to climate change, the fact remains that such policies would work best under a multilateral agreement on climate change mitigation rather than under a maze of disconnected unilateral policies. Reaching a multilateral agreement on the environment is undoubtedly difficult because it has to take into account the interests and requirements of a varied set of countries at different levels of development. Further, the debate is rooted in the political economy, since it is not just the current but the past (and justly so since climate change is a cumulative process) that is being considered to determine actions required. The failure to reach a multilateral agreement would lead to a world of non-cooperative unilateral actions, which might not only be ineffective in dealing with the problem of climate change, but might also lead to a situation of conflict and mistrust between economies. A multilateral agreement might be difficult but it is not impossible if the right set of incentives and the right spirit of engagement is there. Therefore this should be the way forward.

¹⁰⁸ Stokes, 2009.

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Annex 1

South Africa-Sectors Vulnerable to the European Union	
ISIC Rev 3	Sectors
1010	Mining and agglomeration of hard co
2710	Manufacture of basic iron and steel
1320	Mining of non-ferrous metal ores, e
South Africa-Sectors Vulnerable to the United States	
HS 1992	Sectors
26	Ores, slag and ash.
28	Inorgn chem; compds of prec mtl
India-Sectors Vulnerable to the European Union	
ISIC Rev 3	Sectors
1711	Preparation and spinning of textile
1810	Manufacture of wearing apparel
2310	Manufacture of coke oven products
2710	Manufacture of basic iron and steel
1721	Manufacture of made-up textile articles
1722	Manufacture of carpets and rugs
1810	Manufacture of wearing apparel, exc
3511	Building and repairing of ships
India-Sectors Vulnerable to the United States	
HS 1992	Sectors
73	Articles of iron or steel.
68	Art of stone, plaster, cement, asbe
China-Sectors Vulnerable to the European Union	
ISIC Rev 3	
3694	Manufacture of games and toys

1912	Manufacture of luggage, handbags an
2610	Manufacture of glass and glass prod
3220	Manufacture of television and radio
3693	Manufacture of sports goods
1820	Dressing and dyeing of fur; manufac
1810	Manufacture of wearing apparel, exc
2310	Manufacture of coke oven products
3699	Other manufacturing n.e.c.
1810	Manufacture of wearing apparel, exc
3150	Manufacture of electric lamps and l
3000	Manufacture of office, accounting a
1721	Manufacture of made-up textile arti
2929	Manufacture of other special purpos
1010	Mining and agglomeration of hard co
2691	Manufacture of non-structural non-r
1730	Manufacture of knitted and crochete
3692	Manufacture of musical instruments
1711	Preparation and spinning of textile
2029	Manufacture of other products of wo
2930	Manufacture of domestic appliances
3230	Manufacture of television and radio
2893	Manufacture of cutlery, hand tools
3320	Manufacture of optical instruments

3140	Manufacture of accumulators, primar
3330	Manufacture of watches and clocks
2922	Manufacture of machine-tools
3210	Manufacture of electronic valves an
1421	Mining of chemical and fertilizer m
2219	Other publishing
3130	Manufacture of insulated wire and c
2899	Manufacture of other fabricated met
2710	Manufacture of basic iron and steel
3110	Manufacture of electric motors, gen
3312	Manufacture of instruments and appl
2921	Manufacture of agricultural and for
3190	Manufacture of other electrical equ
2411	Manufacture of basic chemicals, exc
3592	Manufacture of bicycles and invalid
1553	Manufacture of malt liquors and mal
2926	Manufacture of machinery for textil
1711	Preparation and spinning of textile
2610	Manufacture of glass and glass prod
1320	Mining of non-ferrous metal ores, e
2912	Manufacture of pumps, compressors,
2101	Manufacture of pulp, paper and pape
2720	Manufacture of basic precious and n

1722	Manufacture of carpets and rugs
3120	Manufacture of electricity distribu
1429	Other mining and quarrying n.e.c.
2710	Manufacture of basic iron and steel
1512	Processing and preserving of fish a
1729	Manufacture of other textiles n.e.c
3591	Manufacture of motorcycles
2921	Manufacture of agricultural and for
2692	Manufacture of refractory ceramic p
China-Sectors Vulnerable to the United States	
HS 1992	Sectors
25	Salt; sulphur; earth & ston; plaste
28	Inorgn chem; compds of prec mtl, r
29	Organic chemicals.
39	Plastics and articles thereof.
40	Rubber and articles thereof.
82	Tool, implement, cutlery, spoon & f
81	Other base metals; cermets; article
80	Tin and articles thereof.
Brazil- Sectors Vulnerable to the European Union	
ISIC REV 2	Sectors
1542	Manufacture of sugar
2101	Manufacture of pulp, paper and paper

2710	Manufacture of basic iron and steel
1310	Mining of iron ores
1320	Mining of non-ferrous metal ores
1514	Manufacture of vegetable and animal
2010	Sawmilling and planing of wood
Brazil- Sectors Vulnerable to the United States	
HS 1992	
26	Ores, slag and ash.
88	Aircraft, spacecraft, and parts thereof
72	Iron and steel.
68	Art of stone, plaster, cement, asbestos
47	Pulp of wood/of other fibrous cellulose

Chapter VIII

Protectionism in services during the global crisis – a (trade) war in shallow trenches?

By Martín Molinuevo¹⁰⁹

Introduction

Amongst the several alarms triggered by the global economic crisis, the one alerting against a possible global return to protectionism sounded particularly loud. Warnings against the perils of beggar-thy-neighbor policies were voiced by government officials of all levels and institutions of all kinds, recalling in cases images of the dark days of the 1930s. As the crisis spread geographically and affected more economic sectors, fears that domestic pressures for protectionism would not be resisted gained intensity.¹¹⁰

Has it happened? Has there been a worldwide surge of protectionism in trade policy during the crisis? While it seems that the 1930s remain a distant memory, there have been a number of indications that trade protectionism has indeed increased during the course of the crisis. Where did all that protectionism go? Available literature focuses largely on the impact of the crisis on merchandise trade, and, to some degree, on foreign investment.¹¹¹

The current study attempts to assess the main governmental measures during the crisis in the area of trade and investment in services, and whether the global crisis has had impacts on the regulatory frameworks in the services sector. It does so by reviewing the main measures introduced by a number of countries during the crisis and considering if, and how, they restrict international trade and investment in services.

¹⁰⁹ The author is grateful to Mia Mikic, Pierre Sauvè, Simon Evenett and the participants to the UNESCAP/UNCTAD/WTO Research Workshop on Rising Non-Tariff Protectionism and Crisis Recovery, Macao, China, 14-15 December 2009, for valuable comments and suggestions. The usual caveats apply.

¹¹⁰ “G20 urged to reject protectionism”, BBC News, 14 November 2008, <http://news.bbc.co.uk/2/hi/business/7728929.stm>;
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 “OECD warns protectionism will worsen financial crisis”, VOA News, 19 March 2009, <http://www1.voanews.com/english/news/a-13-2009-03-19-voa38-68824422.html>;

¹¹¹ See Evenett, 2009b. Also, “E.U. finds trade barriers rising since global crisis”, New York Times, 5 November 2009, <http://www.nytimes.com/2009/11/06/business/global/06trade.html>.

The paper has four sections. Following this introduction, section A recalls the existent international framework that governs trade and investment in services and points out the main legal limitations faced by the countries in the regulation of services. Section B observes the vast array of measures affecting international trade and investment introduced during the global economic crisis. In particular, this third section attempts to determine if, or to what extent, measures taken in response to the economic crisis have contributed to extend protectionism in international trade and investment in services. The reviewed measures are collected from measures reported by the G20 countries, as well as by a few other medium-sized economies, to international organizations as measures that affect international trade and investment, as well as from an online database on trade measures.¹¹² While some of these actions relate directly to the financial crisis, the connection of some other measures with the global crisis is less evident. However, being impossible to tell what measures are indeed related to the economic crisis, we consider here all reported measures introduced during the months of the current crisis, namely, since the second half of 2008 to December 2009. The final section summarizes the main findings, and ventures some considerations on the reasons that may have played a role in this outcome.

A. The current international legal framework

The 2008-2009 economic crisis took place against the background of an international legal framework for international trade and investment radically different to any other comparable crisis that has occurred to date.

The global depression of the 1930s does not even allow for a comparison, taking place in what could be described as the pre-history of international trade and investment regulation. But even more recent crises, (but smaller in terms of the countries affected) are strikingly dissimilar to the current one from the point of view of the international obligations that limited the policy options of the Governments involved. During the 1997-1998 Asian financial crisis, for instance, trade in services between the affected countries was governed only by the General Agreement on Trade in Services (GATS) and one regional trade agreement, the ASEAN Framework Agreement on Services (AFAS), at its first round of negotiations. Today, over 30 agreements covering trade in services can be counted in Asia alone.

1. Geographical coverage of services agreements

The current framework is composed by the nearly-universal WTO rules on trade and investment in services, embodied in GATS, together with a myriad of bilateral and “regional” preferential trade agreements. By December 2006, 43 bilateral or regional agreements on services had been notified to WTO, a number likely to double within five years.¹¹³

In terms of geographical coverage, the multilateral disciplines of the GATS, together with the preferential trade agreements (PTAs) signed in the last decade, effectively entail that virtually all countries are subject to binding international rules on

¹¹² OECD, WTO and UNCTAD, 2009; WTO, 2009a; WTO 2009b; and Global Trade Alert database (available at <http://www.globaltradealert.org/>).

¹¹³ Fiorentino, Verdeja and Toqueboeuf, 2007, pp. 3-5.

trade and investment in services. Indeed, by the end of the 2009, it appears that the Russian Federation is the only major economy (and not a member to WTO) not having concluded an agreement providing for the liberalization of international trade and investment in services.

Multilateral and bilateral disciplines on trade and investment in services are to some complemented by a vast international network of bilateral investment treaties (BITs). These agreements overlap with disciplines on services to the extent that both types of instruments provide coverage for the supply of services through “commercial presence”, i.e. foreign direct investment in the services sector. The 2,600 treaties forming this web effectively connect almost all countries in the world – Brazil being the only major economy to escape this trend.

2. Main obligations

In terms of obligations, GATS and the services chapters featured in PTAs seek to ensure an equal treatment between national and foreign services suppliers by providing a national treatment obligation. Most agreements also feature an obligation on “market access” that bans quantitative restrictions on trade and investment in services, including restrictions on the number of service suppliers that may provide a services, the value of services that may be provided, as well as measures that limit the form of legal establishment that the (foreign) services company may acquire.

GATS also enshrines a broad most-favoured-nation principle that applies to the treatment of foreign services and services suppliers. The fact that a number of PTAs do not include such a provision does not diminish its legal value, as it in any case applies to all WTO Members through GATS. Provisions on transparency and on domestic regulation are also present in GATS and the vast majority of PTAs, requiring participants to make publicly available measures that affect trade and investment in services, and to administer them in a reasonable, objective, and impartial manner.

The scope of these obligations tends to be broad, catching all governmental measures that apply to trade and investment in services, except those that concern exclusively public services provided by the Government. However, the main obligations of services agreements, including those on national treatment and market access, are commonly restricted in their sectoral coverage. The same is true for disciplines on “domestic regulation” which normally only apply to the sectors covered by national treatment and/or market access obligations.

3. Sectoral coverage

The reach of these obligations is commonly determined by country-specific lists of commitments or reservations which indicate which disciplines apply to which sectors. In trade agreements, this can be done either by including a list of the sectors that are covered by those disciplines, or a list of the sectors that are excluded from such obligations. In any case, both “positive list” and “negative list” agreements fall short from universal coverage, and allow for exclusions from the main obligations enshrined in the agreements.

The sectoral coverage of GATS is determined by “schedules of specific commitments”, organized as positive lists. GATS’ national treatment and market access obligations only apply to the sectors included in the schedules, and subject to any limitations set out therein. GATS has been criticized for its limited sectoral coverage, with only four out of 12 services subsectors having received at least one commitment by more than half the WTO Members.

Only tourism has received some commitment by almost all WTO Members, followed by financial services and business services, as seen in figure 1.¹¹⁴ Out of approximately 160 services sub-sectors, an average of only 52 sub-sectors has been listed under GATS market access and national treatment.

Figure 1 suggests that while GATS has succeeded in providing an overarching set of rules on, and a framework for the liberalization of trade and investment in services, the number of actual services sectors covered by the agreement’s market access and national treatment obligations is rather limited. This is especially true for the developing world, since commitments by developing countries reach in average only one fourth of the universe of services, and these commitments fall short of the actual level of openness featured in the domestic laws and regulations.¹¹⁵

The void left by the limited sectoral reach of the multilateral framework provided by GATS is partially filled by the growing network of PTAs in services. Comparative studies between GATS and disciplines in trade and investment in services featured in PTAs suggest that while preferential agreements have not gone beyond GATS in terms of substantial obligations (not even in rules areas such as subsidies, safeguards or government procurement in services, where multilateral negotiations are ongoing) they do provide greater sectoral reach for treatment and market access obligations.

PTAs have extended liberalization obligations across all services subsectors. Construction and tourism are the services sub-sectors that have seen the most improvements through bilateral and regional agreements, followed by recreational, business services, communications and education services. The smallest contributions by PTAs are found in services sectors in which countries have been cautious towards liberalizations obligations, such as environmental services, health and transport.¹¹⁶

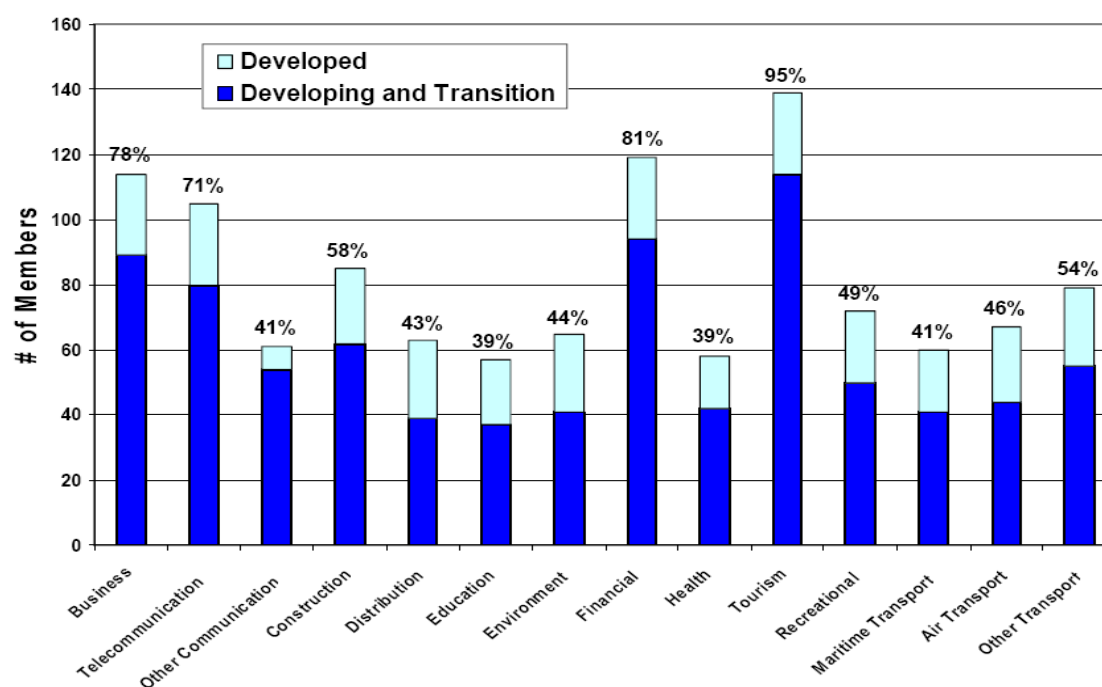
Services commitments in PTAs go beyond those found in GATS not only in terms of the number of sectors covered, but also with regard to the actual level of liberalization committed to. A few agreements provide for *actual* liberalization in some services sectors, although the overwhelming majority of commitments in PTAs remain of a partial nature, as suggested in figure 2.¹¹⁷

¹¹⁴ Adlung and Roy, 2005, pp. 8-10.

¹¹⁵ Altinger and Enders, 1996, pp. 315-316.

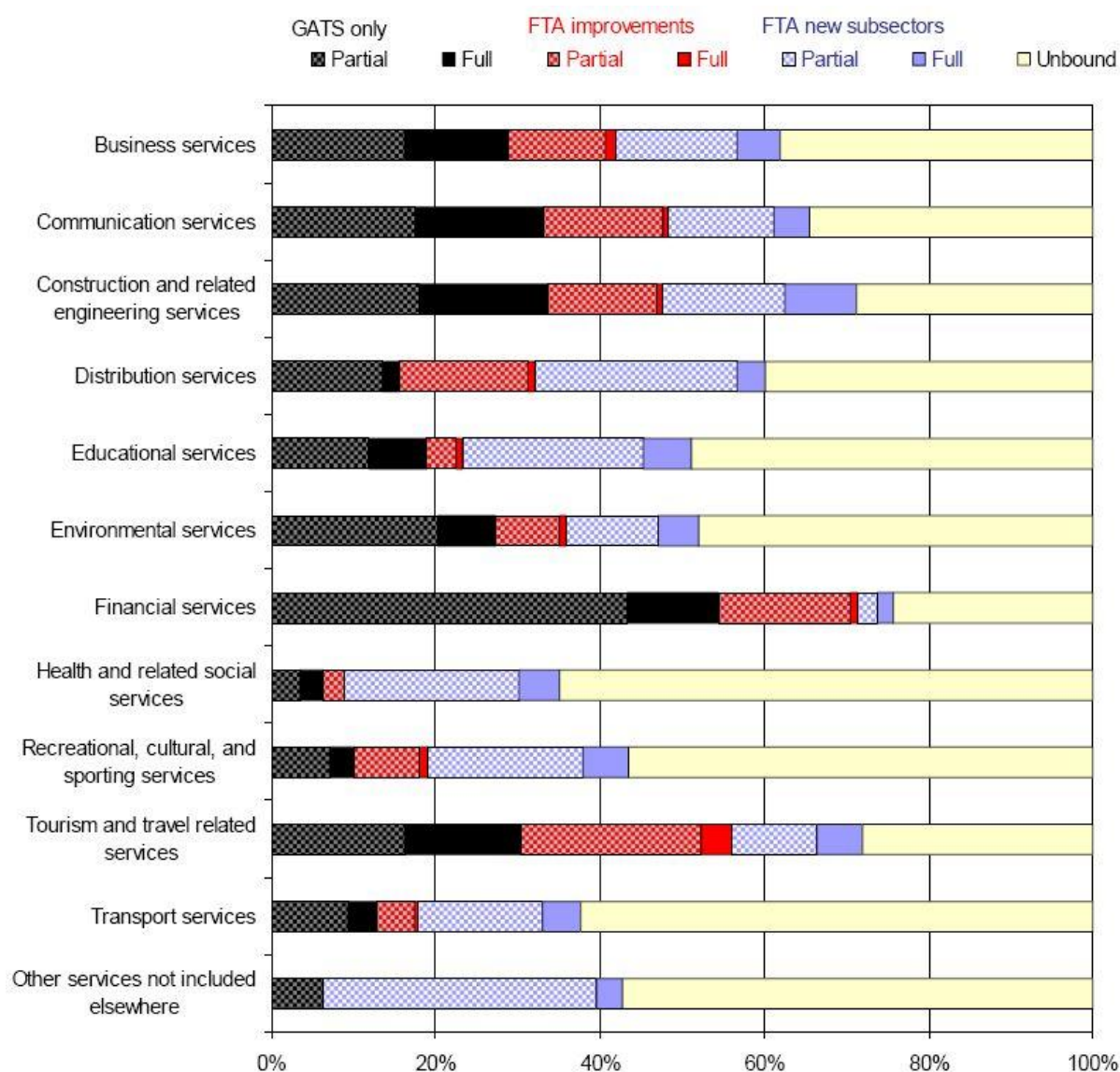
¹¹⁶ Fink and Molinuevo, 2007, pp. 59-60.

¹¹⁷ Roy, Marchetti and Lim, 2007, p. 27.

Figure 1. Sector pattern of commitments, March 2005

Source: Adlung and Roy (2005).

Note: Figure shows a number of WTO Members with at least one commitment in the relevant sector; percentage of total membership with commitments in the sector concerned

Figure 2. Liberalization content by sector

Source: Fink and Molinuevo (2007).

4. Measures excluded

One other type of limitation of services agreements is particularly relevant when considering the types of measures most often used in the financial stimulus packages. The scope of services agreements is typically limited with regard to certain types of governmental measures, so that the main obligations do not apply to those kinds of measures independent to the services sector they touch upon. Under GATS as well as under the services chapters of PTAs, this is the case for measures relating to the public procurement of services.

Importantly, most PTAs also exclude governmental subsidies from the disciplines of the services chapters – an area where PTAs show less ambition than GATS, which does apply to public aid measures. A number of WTO Members have introduced

horizontal restrictions allowing for the discriminatory use of subsidies, particularly those oriented towards research and development activities.¹¹⁸ However, most Members, especially developed countries, including the European Union and the United States, remain bound to apply general subsidies on a non-discriminatory manner in those sectors subject to specific commitments, including financial services.

B. Services measures during the economic crisis

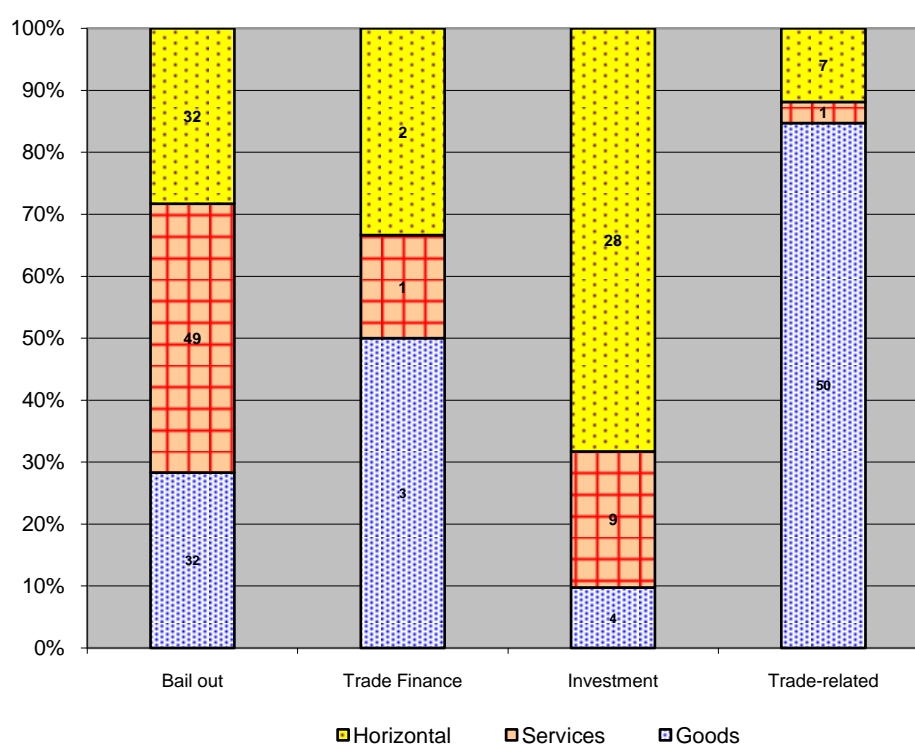
Against this backdrop, how have countries reacted to the global economic crisis on trade in services? Have the fears about a wide-spread return to protectionism been warranted? A review of the varying measures taken during the recent months may help shed some light to these questions.

While the economic crisis has sparked the introduction of measures not seen before (in that magnitude, at least), the trade and investment related measures taken during the crisis, (and not necessarily *because* of it) go of course well beyond the rescue measures for banks exposed to “toxic” assets.

In an attempt to monitor the implications of the economic crisis, Governments from developed and developing countries (most of them G20 members), have collaborated with international economic organizations reporting the measures that they have undertaken in the ambit of international trade and investment. Over 230 governmental measures taken between September 2008 and August 2009 were notified to the WTO, UNCTAD and the OECD.¹¹⁹ These measures relate to international trade on goods and services, foreign investment policy, and either individual or general rescue schemes. 120 of those 230 relate directly to border tariffs or trade remedy measures, which, for the purposes of this study, have not been taken into account.

¹¹⁸ Adlung and Roy, 2005, p. 18.

¹¹⁹ The figures are based on OECD, WTO and UNCTAD, 2009; WTO, 2009a; and WTO 2009b. Given that ample spectrum of the notified measures, from individual measures to very general ones, or notifications that included several different measures, a strict reading of the figures involved would be inappropriate. However the figures do allow identifying the sectors where the governmental measures focused most prominently during the crisis.

Figure 3. Measures on trade and investment

Source: Author's, based on OECD, WTO and UNCTAD, 2009; WTO, 2009a; and WTO 2009b.

Private initiatives have also contributed to follow trade policy developments during the economic crisis and watch whether new restrictions to international trade and investment were found. The Global Trade Alert website accounts for over 150 measures introduced since December 2008 to December 2009.¹²⁰ For the purposes of this analysis, only measures falling in the categories of “bail out”, “investment”, “trade finance” and “other service sector” were taken into account, as these are regulations that may be applicable on trade and investment in goods as well as in services.

The combination of these different sources brings about a total of over 260 non-tariff, behind-the-border measures that broadly depict the areas of international trade and investment that have received the most governmental attention in 2009. A brief consideration of their nature further allows for a grouping of the reported measures according to their main effects on international trade and investment, where they are favourable. Therefore, international trade and investment measures that lift restrictions, ease procedures, or eliminate discrimination are grouped under the “green” category. Measures that increase or expressly maintain trade and investment restrictions, or discriminate between foreign and domestic goods or services, fall under the “red” category. Measures with ambiguous or undetermined outcome form the “yellow” group.

¹²⁰ Global Trade Alert (GTA) features over 600 measures reported in the course of 2009. For the current study, however, we have limited our sample to the types of measures more directly relevant to trade and investment in services. In using the GTA database, we have hence avoided including measures falling exclusive on trade in goods, as well as in areas such as intellectual property and public procurement.

1. General trade and trade-related measures

Trade and trade-related measures encompass different forms of behind-the-border domestic regulations that may affect trade and goods and/or services. Reported trade related regulation include licensing procedures, taxation measures (excluding border tariffs), trade facilitation measures, and some trade-related aspects of government procurement regulations.

As portrayed in figure 3, the great majority of the domestic regulation measures affecting trade and investment that were passed during the 2008-2009 economic crisis were relate to trade in merchandise. Since it is the more traditional aspect of international trade, a bias towards finding more measures on international trade in goods could indeed be expected, particularly for measures notified to the WTO, and those reported privately to the Global Trade Alert database.

However, these figures suggest that cross-border trade in services seem to fall largely off the radar of international trade regulation, even in times of crisis. Indeed, out of almost 60 behind-the-border laws and regulations introduced in 2009, only two pertained to cross-border trade in services; therefore confirming in part, the traditional difficulties in regulating international trade of services. The only trade-related measures directly oriented to the services sector, concerns a service typically sensitive to foreign intervention, this being postal services. The measure at issue re-states a ban on foreign courier companies to deliver express letters.

Table 1. Trade and trade-related measures (September 2008 / August 2009)

	Red	Yellow	Green	Total
Goods	22	16	12	50
Services	1	--	--	1
Horizontal	6	--	1	7
	29	16	13	58

Source: Author's based on OECD, WTO and UNCTAD, 2009, and WTO, 2009b.

Restrictive horizontal measures affecting trade in services relate to government procurement procedures confirming or strengthening “buy local” directives, an instrument that gained great popularity during the crisis,¹²¹ as well as measures relating to horizontal limitations on foreign ownership of domestic companies. The only “green” horizontal measure was reported by Canada, which lowered restrictions and allowed higher foreign ownership in invested companies, including in the transport sector. The bulk of measures on trade in goods relate to the adoption or elimination of licensing procedures; also, a number of measures favourable to trade in goods concern the facilitation of import/export procedures.

Arguably, none of these measures feature an evident link with the economic crisis, or is an obvious emergency measure. Only one trade-related measure, introduced by Indonesia, seems to fall outside the trade every-day, ordinary, regulation: a requirement to

¹²¹ On the discriminatory use of government procurement procedures during the crisis, see Evenett, 2009a.

support exports of certain products value exceeding \$US 1 million by letters of credit issued by domestic banks.

2. Investment measures

Over 50 per cent of world trade in services, as defined in GATS, occurs through the establishment of a foreign invested company. Domestic regulation on foreign direct investment is thus one of the most relevant components of domestic rules on trade in services. Foreign investment policies, however, tend to affect investment in goods and services alike, setting an overarching, common framework to all investment in all sectors of the economy, with particular complementary disciplines in the most sensitive sectors. The adoption of general policies that do not distinguish between investment in goods or services is reflected in table 2, which shows that almost 70 per cent of the investment regulation passed during 2009 was of a horizontal nature.

The figures confirm a traditional perception: countries strive to attract foreign investment. Indeed, it could be argued that, in times of economic downturn, the urge to receive external funds to increase employment and expand domestic demand is even more acute. From an economic perspective, it would make little sense to inject public funds in the market while restricting private investment.

Table 2. Investment measures (September 2008 / November 2009)

	Red	Yellow	Green	Total
Goods	--	3	1	4
Services	1	4	4	9
Horizontal	3	5	20	28
	4	12	25	41

Source: Own based on OECD, WTO and UNCTAD, 2009, and Global Trade Alert database.

Accordingly, only four measures unfavourable to foreign investment have been introduced during the course of the crisis. The only measure focused specifically on the services sector consist of the investment angle of postal services regulation mentioned above, which restates restrictions to foreign participation in the area. The remaining horizontal investment-restrictive regulation relate to tax measures (Algeria, Saudi Arabia), and investment bans on security grounds (Germany). Investment liberalization measures in the service sector concerned the lifting of caps on foreign ownership on banks (Nigeria), relaxed rules on foreign investments in print media (India), measures relating to the financial sector (Viet Nam), and the permission to foreign travel agencies established in China to open local branches.

On the contrary, almost 15 countries have passed general regulation improving investment conditions in their territory. Measures range from elimination of restrictions on real estate acquisition by foreigners (Australia, Republic of Korea), to facilitation of foreign investment procedures (Indonesia, Mexico), and increases in foreign ownership (Malaysia). Some countries, such as Argentina, India and the Russian Federation have reduced limitations on financial investments. The only investment measure strictly related

to goods concerned the authorization by Canadian authorities for the take-over of a domestic technology enterprise by a foreign company.

Similar to measures related to trade in services, no clear signs of protectionist intents can be found in the ambit of domestic regulation on foreign investment. On the contrary, the great majority of policy changes have been directed to attracting foreign investment by relaxing restrictions and facilitating investment procedures. These domestic measures are paralleled in the international scene by the continued trend to sign bilateral investment agreements as a means to attract foreign investment, with 25 bilateral investment treaties concluded in the first six months of 2009.¹²²

3. Bail-out measures

Rather than general trade and investment policy regulation, the measures that will distinguish the 2008-2009 global economic crisis will undoubtedly be the introduction of multi-billion-dollar bail out measures for financial institutions by Governments alarmed at the perspective of a massive collapse of the financial systems worldwide.

While a detailed analysis of these measures would exceed the limited scope of this study, a mapping of the sectors where the bail-out measures have fallen may contribute to the question of whether the economic crisis has triggered a regulatory stampede towards protectionist measures on trade in services.¹²³

The implementation of bail-out measures would, almost by definition, be considered a trade and investment restrictive measure to the extent that they are aimed at ensuring the continued existence of economic agents that would otherwise be driven out of the market. Furthermore, to the extent that they are normally granted to domestic companies, they are discriminatory in nature, enhancing the distortive effects of measures. It is thus unsurprising that 104 out of 113 reported bail-out measures fall in the “red”, trade-restrictive, category (the “yellow” includes announces of measures not implemented and measures for which no details were available).

¹²² UNCTAD, 2009, p. 32.

¹²³ For a more in-depth review of bail-out measures and their compliance with the international trade and investment legal framework, see van Aaken and Kurtz, 2009.

Table 3. Bail-out measures (September 2008 / November 2009)

	Red	Yellow	Green	Total
Goods	29	2	1	32
Services - <i>Financial</i>	44 (18 specific + 26 general)	--	--	44
- Non-financial	5	--	--	5
Horizontal	26	6	--	32
	104	8	1	113

Source: Own based on Global Trade Alert database.

The non-discriminatory, trade-friendly use of rescue measures would consist in the adoption of subsidies to consumers for the purchase of domestic or foreign goods according to their preferences. Surprisingly, such an honourable exception can indeed be found. The one “green” state aid measure featured in Table 3, which relates to the non-discriminatory subsidization of the purchase of eco-friendly automobiles passed in the United States.

The overwhelming majority of bail-out measures, however, consist of producer subsidies limited to domestic companies, thus, being discriminatory in nature. Therefore, what sectors have benefited from this discriminatory state funding? Financial institutions were clearly the primary candidate for the rescue packages, and indeed, as expected, the majority of bail-outs were directed to banks and, to a smaller degree, insurance companies. While more transparent and less discriminatory eligibility requirements for access to the “special purpose vehicles” would have been desirable, the need to provide for immediate stability to a systemic sector such as financial services could not be argued. In those circumstances, it may not come as a surprise that all 25 bail-outs destined to financial institutions reported in OECD, WTO and UNCTAD (2009) were granted to *domestic* banks or insurers. The same is true for the 18 specific measures reported to the GTA database indicated above.

It is significant, instead, that only slightly fewer measures were used in industries not directly related to financial services. While 44 bail-out measures were directed to banks and insurance companies (i.e. the companies at the core of the financial crisis), 34 stimulus packages were used in other areas. Five were directed to other (non-financial) services companies, and the remaining 29 measures were applied in the goods-producing industry. Horizontal measures, establishing mainly increased funding for government procurement and general schemes of direct grants to companies in financial difficulty, accounted for 26 measures.

State-aid measures in the non-financial services sector were implemented by Germany with regard to transport and logistic services, as well as for research and development services related to transport and to organic farming. The United Kingdom provided subsidized interest rates for construction companies and the Republic of Korea assisted maritime transport companies in the leasing of ships.

In the goods sector, the bulk of bail-out measures fell on the automotive and machinery industry (Australia, Canada, Russian Federation and the United States), followed by agriculture (France, Switzerland and the European Union). The bail-outs also reached other less traditional economic sectors, such as green products (Spain and Italy) or the production of chocolate and sugar confectionery (Germany). While it may be argued that the whole of these measures were functional to expand aggregate demand, the systemic necessity for the rescue of those producers remains unclear.

C. Main findings and implications

The above review of behind-the-border regulation affecting trade and investment in services suggests that protectionism of local services suppliers has been remarkably absent from the regulatory agenda during the 2008-2009 global crisis.

Clearly, favouring national financial firms has been a not-so-hidden driving element in the selection of candidates for rescue measures for the financial system. Indeed, an implicit agreement may have developed amongst trading partners, in the understanding that the different domestic rescues would balance each other off – eventually preventing major distortive effects. In any case, the alternative to national bail-outs of domestic institutions would have likely required the development of joint, coordinated action plans that would have demanded more time than that available. From this perspective, it would seem that a sense of urgency, more than protectionism, directed governmental action towards the rescue of domestic financial institutions.

However, while a slight element of protectionism could be discerned in the bail-outs directed to bank and insurance companies, the landscape of the services sector as a whole is governed by the absence of general restrictions to cross border service suppliers. Several factors may have contributed to this outcome:

- In the first place, international trade in services has performed very well during the crisis, without showing the steep plunges that have affected trade in goods. Therefore, Governments may not have felt the demand to introduce new regulations (new restrictions) in this field, as strong protectionist pressures did not develop.
- The traditional challenges in regulating cross-border trade in services and difficulties in the actual implementation of restrictions may have acted as an effective deterrent to any protectionist considerations.
- The nature of some service sectors present additional challenges for the immediate implementation of cross-border restrictions. Business services, for instance, are typically based on standing contracts which cannot be easily terminated; furthermore, business services tend to be tailored to the needs and conditions of the consumer, so that they are usually not immediately fungible.
- Other services sectors are complementary to other economic activities, and therefore follow their fluctuations. That is the case for transport services, the services sector most heavily affected by the global crisis, which is inherently linked to international trade in goods.¹²⁴ Having international trade see a plunge of around 20 per cent, protectionist regulation could do little to soften the impacts of such falls in global demand for a services industry so closely linked to trade in goods.

¹²⁴ Borchert and Mattoo (2009), p. 6.

With regard to investment in services, as well as in goods, economic crises create incentives to maintain and enhance the level of openness towards foreign involvement, rather than to introduce restrictions. The regulatory trends observed in this study confirm this assumption, as the bulk of foreign policy changes during the crisis were directed towards simplifying regulations and expanding foreign participation. In this sense, foreign investment policies seem to follow patterns contrary to international trade in merchandise: protectionist pressures are more likely to gain momentum in periods of economic expansion, while times of economic downturn tend to foster greater market opening.

Finally, one institutional element adds to the factual and economic forces that work against a widespread boom of protectionism in international trade and investment in services. As described in section A, virtually all countries in the world have accepted international obligations that limit their capacity to enact domestic regulations that may restrict international trade and investment in services. The international framework on trade and investment in services thus presents a legal and institutional impediment to the general surge of protectionism. This is so to the extent that violation of these agreements, while possible, is not free from negative impacts: it may not only trigger the same reaction from the trading partners, thus losing the trade benefits, but these instruments commonly feature strong dispute settlement procedures that may lead to the imposition of trade sanctions.

The analysis of the measures taken during the 2008-2009 global economic crisis suggests that, when it comes to international trade and investment in services, the scenario of a global trade war or restrictive measures, has not really ever become a real one. Clearly, the crisis seems to have granted the opportunity to some countries to give in to protectionist pressures, particularly in industries where such pressures are traditionally strong, such as automobiles, machinery industries and agriculture. To that end, Governments have resorted to measures that tend to be poorly covered by the international legal framework, such as subsidies schemes and government procurement. With regard to international trade and investment in services, the analysis suggests that a number of economic, legal and institutional factors complement each other to create strong incentives against a general surge of protectionism. These elements, indeed, de facto eliminate from the domestic regulatory capacity a number of instruments that would allow Governments to protect domestic industries and isolate them from the global economy. In such a legal, economic and institutional context, a trade war seems unlikely.

The above findings confirm the general perception that international trade in services remains an area which is less accessible to direct governmental intervention. While in the area of trade in goods, the Governments have a number of instruments to affect particular, chosen goods, at their disposal. When it comes to trade in services, regulatory action for individual sectors tends to be more costly and less readily available, which acts as a disincentive for the introduction of protectionist measures. National policymakers are better equipped to focus on the development of general legal frameworks, leaving sector-specific matters to be developed by specialized agencies with expertise in the individual sector. In the negotiating context, this translates into a need for trade and foreign ministries to maintain close contacts with specific regulatory agencies.

Another implication relates to the strengthening of the multilateral trading system, and highlights apparent contradictions between negotiations and actual policy needs. The above observations suggest that services generate less protectionist pressures than trade in goods. Yet, at the multilateral level, a number of developing countries seem reluctant to advance in international commitments in this area. This may in part be due to particular regulatory concerns associated with certain services industries. However, more active discussions on trade and investment in services in multilateral negotiations would sustain the international trading rules and would enhance coherence of the system, in particular vis-à-vis the proliferation of preferential trade agreements.

The regulatory developments on trade and investment in services observed during the crisis also have strong implications for two matters on the multilateral agenda on services disciplines. Some Asian WTO Members have devoted significant efforts to gather support for the introduction of a special safeguard mechanism under GATS, with limited success. Such an instrument seems to offer few advantages for regulators for the defense of domestic services in emergency situations. Indeed, no measure taken during the economic crisis was aimed in that direction, not even in the financial sector. Trade negotiators would hence be well advised to consider whether an emergency mechanism, that does not seem to attract major interest from their own regulators in times of economic crisis, is worth investing such negotiating capital in.

Conversely, the most popular emergency measure resorted to during the crisis, subsidies, has received little interest at the multilateral table. However, the GATS disciplines on non-discrimination do apply to state aid measures. The regulatory practice during the global crisis has shown that “emergency subsidies”, temporary in nature, can prove a valuable instrument in times of crisis (i.e. promoting trade and investment rather than restricting it). WTO Members may draw on this experience in developing joint rules that would ensure that subsidies remain a valuable tool in the policy options for Governments in times of crises, while setting limits to the discriminatory and distortive effects that they may bring about.

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Chapter IX

Methodological approaches to the quantification of non-tariff measures

By Michael J. Ferrantino¹²⁵

It has been widely remarked that in a world where tariffs have been reduced by recent trade rounds and bilateral free trade agreements (FTAs), pressures for protection against imports are more likely to take the form of non-tariff measures (NTMs). This has led to an intensified interest both in monitoring such measures and in the quantification of their economic effects. In the current global trade collapse, direct increases in tariffs, such as was observed in the 1930s, have been virtually non-existent, giving further salience to the potential role of non-tariff policies for restricting imports.

The purpose of this paper is to review recent progress in the quantification of the economic effects of non-tariff measures, and to express some personal views as to the most important issues that have emerged in this endeavour. Some of these points have been raised elsewhere,¹²⁶ while others have been clarified as the result of recent studies the author has participated in at the United States International Trade Commission (USITC). The main points may be grouped under several headings, as follows:

1. NTMs are closely related to trade facilitation and the economic analysis of NTMs is similarly related to that of trade facilitation.

This point ought to be self-evident, but is not always. NTMs make trade harder, and removing them makes trade easier. Trade facilitation makes trade easier, by removing problems that make trade harder. Thus, NTMs and trade facilitation are in fact mirror images of each other. Removal of NTMs can often be considered “trade facilitation” by another name, and vice versa.

In the legal language of negotiations and FTAs, NTMs and trade facilitation are often dealt with as separate subject matters. In particular, sanitary and phytosanitary (SPS) and technical barriers to trade (TBT) measures are often dealt with under the rubric of NTMs (as, for example, in the non-agricultural market access (NAMA) negotiations in the Doha Round) while customs matters are often considered under the heading of trade facilitation.

Nonetheless, when quantifying the effects either of trade facilitation measures or of removing NTMs, similar issues arise. Are trade flows smaller than they might

¹²⁵ This paper is adapted from a presentation made for the UNESCAP/UNCTAD/WTO Research Workshop on Rising Non-tariff Protectionism and Crisis Recovery, Macao, China, 14-15 December 2009. This paper represents solely the views of the author and does not represent the views of the United States International Trade Commission or any of its Commissioners.

¹²⁶ Many of the arguments set forth briefly here are elaborated further in Ferrantino (2006), which rests squarely on Deardorff and Stern (1998).

otherwise be? Are import prices higher than they might otherwise be? If the policy were changed, what would be the follow-on effects on trade, economic welfare, GDP, production, or employment? Thus quantitative tools such as price gaps, gravity modeling and other econometric tools, and simulation methods (partial equilibrium or computable general equilibrium (CGE)) are deployed to study both sets of problems, with the details of implementing the tools often being very similar in practice.

2. The economic effects of NTMs and trade facilitation are potentially very large.

For example, Andriamananjara and others (2004) estimated that removal of certain categories of NTMs could yield global welfare gains of \$US 90 billion in 2001. This estimate involved several steps – identifying particular policies of interest, quantifying their effects on prices using econometric methods, and simulating the effects of the resultant price gaps in a CGE model. In another widely cited result, Wilson, Mann, and Otsuki (2005) estimated that trade facilitation in developing countries could raise global merchandise trade by \$US 377 billion (9.7 per cent) in 2000-2001.

There are relatively few quantitative analyses that compare the effects of NTMs and tariffs. Fugazza and Maur (2008) report that in 14 of 26 global regions, the ad valorem tariff equivalent of NTMs calculated using the results of Kee, Nicita and Olarreaga (2004) is higher than the average tariff. In studies focused on particular products and markets, the impact of NTMs is often found to be as high as, or higher than, that of tariffs. For example, the impact of SPS measures on United States beef exports from 2004-2007 (\$11 billion) has been estimated to be almost twice the impact of tariffs and tariff-rate quotas (TRQs) (\$6.3 billion) (USITC (2008)). In another study focusing on United States agricultural exports to India, the effects of removing India's NTMs on United States exports were found to be of approximately the same order of magnitude as those removing India's tariffs (USITC, 2009), although the role of NTMs for a single product (wheat) accounted for most of the NTM effects.

3. The distortions from NTMs can be measured as price gaps or quantity gaps. In many applications, price gaps are preferable.

Restraints on imports, if they are effective in practice, are likely to reduce the quantity of imports, increase their price, or both. In some cases, the quantity or price effect of import restraints is of interest for its own sake. One may also wish to introduce measures of the distortion into a simulation model to estimate effects on welfare, GDP, or inter-industry effects.

For purposes of simulation modeling, it is often convenient to express these effects as “price gaps” or “tariff equivalents.” The difference between the high price of imports induced by NTM and the lower or “world” price that would prevail in the absence of distortions can be treated as a tariff equivalent. Tariff equivalents have the advantage that they enable easy comparison with NTMs and tariffs. Also, the removal of NTMs can be simulated in a partial equilibrium or CGE framework using familiar methods for simulating the effects of tariff changes.

One can also measure the quantity or value effect¹²⁷ of NTMs or other import restraints as the difference between the observed (lower) imports under the NTM and the higher level of imports that would have been observed without NTM. This requires the analyst to come up with a level of “normal” imports in the absence of NTM. One widespread technique for doing this is gravity modeling. It is well known that a high degree of the variation in the value or volume of trade between partners can be explained by the size of the partners’ economies (more trade between partners with higher GDPs) and by the economic distance between partners (less trade between more distant partners, more trade between partners sharing a common border or a common language). Estimates of the gravity model can be used to generate out-of-sample estimates of what “normal trade” would be between country pairs for which the trade value is usually lower.

There are several reasons for preferring price gaps to quantity gaps in most cases. First, price gaps measure the difference between two observed values, a distorted (NTM-ridden) price and a non-distorted price. Quantity or value gaps measure the difference between an observed (distorted) value and an estimated “normal” value of trade, and are thus influenced by the quality of the estimated value, which is subject to the various uncertainties surrounding econometric specifications. Even when price gaps are “mass-produced” using an econometric framework (e.g. Dean and others, 2009) the econometric properties of these estimates are likely to be preferable to estimates of quantity gaps, since there is generally less cross-country variation in prices than in trade flows (Ferrantino, 2006, p. 20 and Annex 2).

Quantity gaps may be preferred in cases where NTM is prohibitive and stops trade altogether. In such cases, there is no price of imports on which to base a price gap. They may also be used in cases where trade data is relatively abundant and prices are difficult to measure, for example for highly differentiated products of the same general type.

4. Analysis should focus on cases where there is both a policy of concern and an observed economic effect.

Quantitative analysis of NTMs can be approached either from the policy side or from the data side. On the one hand, the analyst can begin with a list of one or more products subject to policies that are of potential concern, and then attempt to find out if they have any economic effects, i.e. positive price gaps or quantity gaps. Alternately, one can begin with price and quantity data on a variety of products and go looking for evidence of distortions. Ideally, the reported results should focus on the intersection of the products of concern on policy grounds and the products which show empirical evidence of distortions.

¹²⁷ While ideally one would like to contrast “quantity gaps” with “price gaps”, in practice what are often estimated as quantity gaps are really “value gaps,” in which the analyst contrasts the dollar value of imports constrained by an NTM with a normal value. This is no doubt because data on trade values are more easily obtained than data on trade quantities (e.g. number of units, kilograms, etc.) Since value = quantity*price, analysis based on values may be influenced by variations in the level of prices, across trading partners or across time. Analysis based on values is often reported as if it were based on quantities, making the unstated assumption that prices are constant in the relative dimension.

If one begins with a list of products of policy concern, it will sometimes be the case that economic effects on imports are not observed. This may be the case, for example, with regulatory policies that impose relatively small costs. On the other hand, the literature contains examples of studies that focus entirely on anomalies in prices, quantities, or values without linking these to any particular policy. Such studies may produce impressively large estimates of the effects of NTMs but are of relatively little practical use to policymakers.

5. Sources of information about NTM policies can be either official, or based on complaints and concerns of traders. The former tend to exclude less transparent measures, while the latter are often not specific about the measure involved.

Earlier analyses of NTMs relied heavily on the UNCTAD TRAINS database (see also chapter IX in this publication). One main advantage of TRAINS is that it provides data on policy measures line-by-line according to the Harmonized System of tariff and trade nomenclature, often including detail on products defined at the national level in categories finer than the internationally standardized HS6 subheading level. Providing line-level information enabled analysts to calculate coverage ratios, expressing either the percentage of lines or the percentage of trade covered by notified NTMs. Frequent criticisms of the coverage ratio approach include the fact that the economic effect of measures is likely to vary widely on a line-by-line basis, and the possibility that countries with more transparent reporting of measures will look more restrictive on the basis of a coverage ratio. Still, when a new line-by-line inventory of NTMs becomes available, coverage ratios can be a useful way of developing preliminary stylized facts about the pattern of NTM incidence (e.g. Ando and Obashi, 2009 (or Chapter I in this volume), for NTMs in ASEAN).

Other inventories of NTMs rely directly or indirectly on concerns or complaints registered by traders. These concerns may be determined by direct surveys of traders, such as in the Pilot Project surveys and Trade Barrier Reporter (<http://ntb.unctad.org>), or they may be collected by an intermediate party, such as a national government. The WTO, in its Trade Policy Reviews (TPRs), combines official information as collected by the Secretariat and provided by members under review, with concerns of traders expressed indirectly by means of other members' queries in the review process. The CoReNTM database of Martinez, Mora and Signoret (2009) provides a useful assembly of entries gathered from the European Union's Market Access Database, the United States Trade Representative's National Trade Estimate, and the WTO TPRs.

One advantage of gathering data on NTMs based on concerns and complaints is that traders can identify not only policies of concern, but difficulties in administering a policy. Policies that are arbitrary, inefficient, costly, time-consuming, non-transparent, or corrupt may have economic effects greater than those administered honestly and efficiently. The inclusion of the category of "Procedural Obstacles" in the Pilot Project surveys and Trade Barrier reporter is a significant step forward in gathering information of this type. Similar information is contained in many of the entries in CoReNTM. A downside of information based on concerns and complaints is that traders are sometimes not able to identify the specific policies of concern, or misidentify them. For example, surveys often report concerns with "customs procedures" which on further examination refer to a variety of border and behind-the-border measures not in fact administered by the customs authorities, but by other agencies of government or private actors in ports of entry.

The global downturn in trade in 2008 gave rise to a new effort to collect information on state policies that potentially limit trade. The Global Trade Alert project (<http://www.globaltradealert.org/>), coordinating the resources of a variety of institutions under the direction of Simon Evenett at the Centre for Economic Policy Research (CEPR), gathers real-time information both on proposed new trade policy measures and measures actually implemented. The data include both trade-restrictive and trade-liberalizing measures, and can be searched both by implementing countries and by countries affected.

6. There are a variety of data sources on import and export prices and quantities available for the analysis of NTMs. These vary in terms of detail and convenience.

In some cases, the analysis of NTMs focuses on very specific products and markets. Special-purpose data on these products and markets can sometimes be obtained from industry or official sources. In many cases, it will be more convenient to refer to a comprehensive source of trade data. The most widely used source is the United Nations Commodity Trade Statistics Database (COMTRADE) data published by the United Nations Statistics Division. These can be accessed either by a direct subscription (<http://comtrade.un.org/>) or through the WITS system maintained by the World Bank in collaboration with UNCTAD (<http://wits.worldbank.org/witsweb/>).

Since large downloads can be made from COMTRADE, it is convenient for comparisons across time and across countries. Analysis can be made using either data reported by countries themselves or “mirror” data from partners, i.e. country Y’s reported exports to country X can be used as a proxy for country X’s imports from country Y, though there are often discrepancies between reporter data and partner data. Since units of measurement are available, it is possible to divide values by units of measurement and obtain unit values for price gap comparisons.

Unit values in general should be used with caution. At the HS6 level, many products are still highly differentiated, and the average unit value may not be representative of any particular transaction. As a rule of thumb, unit values obtained from trade data are more likely to be reliable for agricultural goods than for manufactures, and for goods measured in kilograms rather than goods measured by number (count). A further difficulty is that some unit values in COMTRADE are imputed based on global averages, and cannot be used to represent import prices for a specific country. There is a data flag in COMTRADE to indicate which unit values are imputed; at present, this flag is not available in the WITS version of COMTRADE.

Alternately, global trade data can be obtained from the private firm Global Trade Information Services, GTIS (<http://www.gtis.com/>). GTIS acquires trade data directly from approximately 70 countries, filling in the gaps with COMTRADE data, and sells it in a variety of products such as World Trade Analyzer (individual country reporter files) and Global Trade Analyzer (all countries together). Since the unit values have not been imputed or transformed, they are more reliable for the purpose of NTM analysis. Besides the additional costs associated with obtaining privately-sourced data, there is a limitation on the size of the feasible download. This is less of a problem for analyses with a narrow focus, but more problematic if the analysis is to cover many products and countries simultaneously.

7. The best estimates of NTM effects are crafted with detailed knowledge of products and markets, one product and country at a time. However, policymakers often want to know about many products and countries at once. This leads to a tradeoff between “handicraft” and “mass-produced” estimates of NTM effects, with a corresponding tradeoff between quality and quantity.

Ideally, an analysis of NTM effects is able to focus on a very small number of policies, products and markets. Careful analysis of a single NTM price gap should incorporate as much information as possible about the actual policies involved, the procedures by which they are implemented and whether they have changed over time, the exact products covered, and so on (Deardorff and Stern, 1998). Such information is important for making a correct assessment of the quantitative impacts of such policies.

However, policymakers often want to know about many products and countries at once. They may ask questions such as, “Which countries are imposing the biggest non-tariff barriers to my country’s exports? Which of my country’s export products are most impacted by NTMs? What are the top NTM issues our trade negotiators should be focusing on?” The answers to such questions imply that many countries and products are to be surveyed at the same time. Thus, there arises a contrast between “handicraft” estimates which are specialized for particular cases and “mass-produced” estimates (Ferrantino, 2006). Associated with this contrast is a tradeoff between higher quality of handicraft estimates and broader coverage of mass-produced estimates.

Some attempts to generate NTM estimates for many countries and products have replaced the arithmetic calculation of individual price gaps with econometric methods. In such methods, the price gap is estimated as a residual or dummy-variable estimate, representing the difference between an actual price and the price one would expect in a given market, given systematic differences in such factors as non-traded goods prices (e.g. Dean and others, 2009). Econometric estimates of this type are subject to limitations similar to gravity model estimates of quantity gaps. The estimates of the gap are only as good as the econometric specification. While they may provide general estimates of the price anomalies associated with NTMs, readers familiar with specific cases and markets will often find individual product-by-country estimates to be unrealistic.

The attempt to combine the precision of handicraft estimates with the coverage of mass-produced estimates is an important area of research in NTM quantification at present. If price data are abundant and there are reasonable methods to impute such factors as transport costs, it is sometimes possible to produce something such as handicraft estimates for dozens or even hundreds of products simultaneously (USITC, 2009). These can be aggregated by product categories for convenience in modeling.

8. Appropriate price comparisons for NTM analysis require the identification of a point in the supply chain where prices are to be compared. When there are multiple policies present, a single estimated price gap summarizes their effects but does not provide information on the effects of individual policies. Supply chain analysis is particularly useful for trade facilitation problems.

The movement of goods from the exporter to the ultimate consumer involves numerous transactions costs, which take the form of mark-ups. Anderson and van Wincoop (2004) suggest that the “typical” cost increase for developed-country exports

between the factory and the retailer is approximately 170 per cent, which may be decomposed as follows: 21 per cent transportation costs, 44 per cent border related trade barriers and 55 per cent retail and wholesale margins ($2.7 = 1.21 \times 1.44 \times 1.55$). The 44 per cent may include tariffs, NTMs, and “natural” barriers (such as different languages, information costs, and the cost of using different currencies). In many cases the mark-up from factory to consumer may be even higher. Feenstra (1998), citing Tempest (1996), reports data which imply the mark-up on Barbie dolls produced in China and sold in the United States is approximately 900 per cent.

Thus, any comparison of distorted and non-distorted prices needs to specify at what point in the supply chain the price comparison is being made. If the non-distorted “world” price is measured at a different point in the supply chain than the distorted price affected by NTMs, corrections need to be made for those transport costs, tariffs, and wholesale and retail markups which are added at each point of the movement of products. Products move from the farm or factory to the port of exportation, are loaded onto ships or planes, moved internationally by ocean or air, are unloaded at the port of importation, pass through customs where tariffs may be charged, and move into the internal distribution system in the importing country where they are subject to wholesale and retail markups. Some formula that can be used for breaking down the various markups in the supply chain can be found in Ferrantino (2006, Annex 1), which follows closely Deardorff and Stern (1998, Appendix 3).

A common basis for comparisons for NTM price gaps is the CIF (cost-insurance-freight) price, which is the price in the importing country inclusive of insurance and freight but not including tariffs. The unit values in most countries’ trade data are reported on a CIF basis. Retail price comparisons have also been used (e.g. Bradford, 2005). These are problematic, since the values of wholesale and retail margins are often imprecisely measured and apply to aggregate product categories. One can also use the farm gate or factory gate in the exporting country as a basis for comparison. The literature on measuring the effects of agricultural policy distortions takes this approach in the form of “import reference prices” and “export reference prices” (Anderson and Martin, 2009).

It is often the case that the difficulties faced by traders attempting to export or import goods consist of multiple policies applied to the same transaction, or to a mix of official and private practices (see Tilton, 1998) for a case study of Asian cement trade). Such situations may be particularly frustrating for traders; if one policy is negotiated away, another may pop up to have the same restrictive effect in the marketplace.¹²⁸ The classic price gap or tariff-equivalent method is only able to express the summary effect of all policies in place, and is not able to apportion the effect among multiple policies. Indeed, it may not even be appropriate to think of several policies accounting for different percentages of a single price gap. They may all operate as constraints, and it may be necessary to remove all of them before any change in market outcomes is observed.

A supply chain perspective can help in the analysis of multiple NTMs. By isolating the individual locations in the supply chain where different policies can take

¹²⁸ In United States policy circles, this is often referred to as the “whack-a-mole” problem, after the child’s arcade game in which the player attempts to smash down mechanical rodents with a large mallet before they can pop up again.

place, it may be possible to obtain a better understanding of which policies act as absolute constraints and which are not constraining, but may increase costs. Breaking down the supply chain is especially useful for the analysis of trade facilitation as well. For example, the process of importation in a seaport can be broken down into a number of steps (Londoño-Kent and Kent, 2003). Survey instruments can also be designed from the perspective of costs or time associated with different parts of the supply chain.¹²⁹

9. The problems involved in making price comparisons for differentiated products remain a significant challenge for the analysis of NTMs.

Unless special-purpose data are available, price comparisons for traded goods are likely to be made using internationally comparable unit value data at the HS6 level. However, it is now well-established that products defined at the HS6 level are not homogeneous, particularly not in the case of manufactures. Some products do not even have internationally standardized units of measure (e.g. beverages may be measured in liters in one country, kilograms in another, and dozens of bottles in a third). Moreover, different countries exporting the same HS6 product tend to charge different unit values¹³⁰, suggesting that there is product differentiation at a level finer than HS6, or even at the nation-specific statistical reporting categories (HS9 or 10).

Since it is always possible that the two prices compared in a price-gap calculation are for products that are not identical, some part of the price gap may represent quality differences rather than the effects of NTMs. How big a problem is this? Taken to the extreme, it could place all estimates of price gaps under a cloud of skepticism. The situation is not quite as bad as all this. In many cases, even when there are quality differences they are not likely to be very large or to fall within a reasonable range, so that large price gaps at HS6 may still reasonably be associated with policies. Another possibility is to do price comparisons that take into account that different suppliers of imports are likely to be selling different quality products, so that the import price is averaged out among source countries, each of which has its own benchmark price calculated on the basis of that country's exports to the world as a whole (USITC, 2009).

10. Simulation models provide a tool to estimate the effects of NTMs on trade flows, production, employment, GDP and welfare. They range from simple methods, implementable on a spreadsheet, to complex tools, linking partial- and general-equilibrium models at the frontiers of current research.

Simulation models have long been used to analyse the effects of tariff changes, for example as associated with global trade rounds or free trade agreements. Such models are useful tools for organizing economists' thinking about trade, since they embed tariffs (or tariff equivalent measures of NTMs) in a framework based on economic theory, which allows multiple variables to adjust when trade policies are changed. Thus, simulation models can be used to assess the effects of NTMs, or their removal, on trade flows, production, employment, GDP, and welfare. Both price gaps and quantity gaps can be used as "policy shocks" in simulation models.

¹²⁹ Examples of this include the "Trading across borders" component of the World Bank's Doing Business surveys (<http://www.doingbusiness.org>) and the survey of logistics impediments in USITC (2005).

¹³⁰ For example, Schott (2008) and Fontagné, Gaulier and Zignagno (2008).

Simulation models come in various degrees of complexity. Partial-equilibrium (PE) models consider individual markets (for example, the market for a particular agricultural good or variety of steel), and assume that many other things, such as wage rates, are held constant since the trade policy only has a second-order effect on them. PE models can thus be used to give trade and welfare effects for single products. They are good for analysing narrowly defined products, and can often be implemented with simple computational tools such as spreadsheets. Computable general equilibrium (CGE) models take into account the linkages between different industries. In global CGE models, such as GTAP, all industries in all countries are interlinked by a combination of trade relationships and input-output relationships in production. Use of CGE models thus has the advantage that the effects of policies applied to one product or industry to the situation in other industries can be investigated, often yielding unexpected results that are grounded in economic reasoning. One tradeoff involved in CGE modeling is that the definition of products tends to be more aggregated than in PE modeling. In addition, there is often significant investment both in training and in software and databases involved in performing CGE modeling at a useful level of proficiency.

Some of the most advanced applications of simulation modeling to NTMs involve linkages between PE and CGE modeling. This approach enables one to capture both the ability of PE modeling to represent narrowly defined products, and the strength of CGE modeling in capturing inter-industry linkages. These sophisticated approaches operate by passing information back and forth between models operating at different levels of detail, and sometimes by iterating between models to converge on a solution. Examples are USITC (2008) for global beef trade and USITC (2009) for United States agricultural exports to India.

11. There are an increasing variety of resources for analysts doing quantitative work in NTMs, and a growing community of researchers pursuing such work. A significant and growing body of this work pertains to the analysis of regulatory policies, such as SPS and TBT policies.

One place to access current research on the quantification of NTMs is at NTM Network (<http://i4ide.org/NTMnetwork>) and NTM Wiki (<http://i4ide.org/NTMwiki>). These websites contain links to databases, methodology papers, research and analysis from many sources (academics, GTAP, OECD, USDA-ERS, USITC, World Bank, WTO, etc). The information is both qualitative and quantitative, and covers NTMs, trade facilitation, and liberalization of services. The open-architecture nature of the Wiki format enables researchers to add resources on their own, as well as to provide comments and discussions related to currently existing resources.

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Chapter X

UNCTAD initiatives on non-tariff measures – some results from a pilot project

By Sudip Ranjan Basu and Hiroaki Kuwahara¹³¹

Introduction

During the past decades, global tariff barriers in international trade have fallen significantly. According to the UNCTAD-TRAINS database, the tariff averages on agricultural goods and on industrial products both declined from 19.9 per cent and 6.7 per cent in 1995 to reach 7.4 per cent and 2.4 per cent in 2008, respectively.¹³² This decline in global tariff barrier is due to eight rounds of multilateral trade negotiations under the auspices of the GATT/WTO as well as that of bilateral and regional arrangements. However, this event has subsequently raised the relative importance of NTMs as both protectionist and regulatory trade instruments.

The ongoing global economic crisis has once again highlighted the need to urgently address subtle and not-so-subtle non-tariff measures (NTMs), which have been used under various legitimate pretexts (such as protection of health and environment). Economists often argue that these measures affect trade much more ambiguously than tariffs which are price-based and transparent policy measures. For example, the majority of NTMs that were introduced over the last couple years since the onset of the current global crisis were largely WTO consistent, yet they were considered as policy measures to restrict the free flow of goods.¹³³

UNCTAD Secretariat has always underscored the mismatch between the reduction of tariffs arising from GATT/WTO multilateral agreements and the numerous regional and bilateral level preferential trade agreements (PTAs) that were concluded over the past decades, on the one hand, and the proliferation of NTMs, on the other. As tariff levels fell

¹³¹ We would like to thank Khalil Rahman, Victor Ognivtsev, Fabien Dumesnil, Alessandro Nicita, Denise Penello-Rial, Mark Bloch and others at the Trade Analysis Branch, International Trade Division, and to Mia Mikic of UNESCAP for valuable comments and suggestions during the preparation of the paper. Thanks are also due to participants at the following conferences: UNESCAP/UNCTAD/WTO Research Workshop on Rising Non-Tariff Protectionism and Crisis Recovery, 14 December 2009, Macao, China; Asian Development Bank (15 March 2010, Manila), Philippines Institute of Development Studies (16 March 2010, Manila) and ASEAN Secretariat (20 March 2010, Jakarta).

¹³² Import-weighted applied tariff rates, including preferences. Source: WITS/TRAINS <http://www.unctad.org/trains>.

¹³³ See Report on G20 Trade and Investment Measures, UNCTAD-OECD-WTO: http://www.unctad.org/en/docs/wto_oecd_unctad2009_en.pdf.

over the years, non-tariff measures increasingly took centre-stage in market-access concerns.¹³⁴

With the growing number of trade policy measures under discussion globally, it becomes clear that the existing rules under the relevant WTO agreements are not adequate to regulate a massive flow of technical regulations, standards (international, national and private), sanitary and phytosanitary regulations, and yet these agreements are not subject of negotiations in the ongoing Doha Development Round. Moreover, in spite of their importance, there is little understanding of the exact implications of NTMs on trade flows, export-led growth and social welfare in general.

It was against this background that UNCTAD Secretariat has launched the new initiative to reach a common understanding on the relative importance of the different types of NTMs and their impact on the trading activities, especially those of developing countries.

The paper is organized as follows: section A provides a brief historical account leading to new UNCTAD initiatives on NTMs that started in 2005. Section B briefly documents UNCTAD activities on NTMs related work, during 2005 and 2009, in collaboration with international, regional and national stakeholders. Section C presents the newly endorsed definition and classification of NTMs by the Group of Eminent Persons, which was constituted by the Secretary-General of UNCTAD in 2006. Section D5 illustrates and discusses some descriptive statistics of the sample survey which was conducted during the pilot project in five countries, namely, Brazil, Chile, India, the Philippines and Thailand. Section E concludes the paper.

A. Old UNCTAD NTMs classification: coding system of trade control measures

UNCTAD has been actively involved in research and programmatic activities on issues related to non-tariff measures since the early 1980s. In 1994, it began to collect and classify NTMs according to a customized Coding System of Trade Control Measures (TCMCS) from official sources.¹³⁵ This coding system classified tariffs, para-tariffs and NTMs into over 100 subcategories. Concurrently, a TRAINS database was developed by UNCTAD, which subsequently grew into the most complete collection of publicly available information on NTMs. Later, in collaboration with the World Bank, TRAINS became accessible to researchers through the World Integrated Trade Solution (WITS) software application.

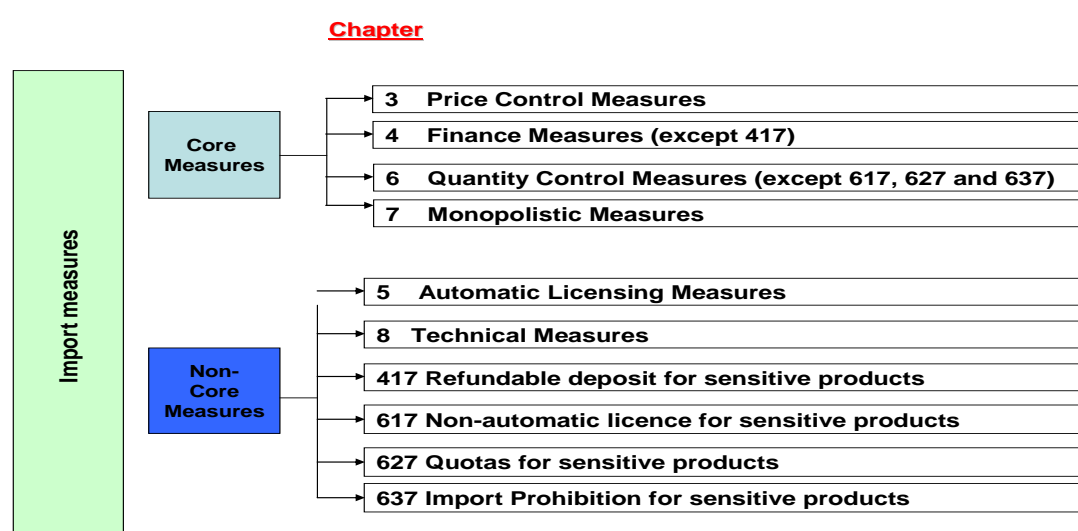
To be more precise, the old UNCTAD NTMs classification had six core categories according to the nature of the measure: (a) price control measures; (b) finance measures; (c) automatic

¹³⁴ The Global Trade Alert, www.globaltradealert.org, report estimates show that the number of measures (official) implemented in 2008 at roughly 70 per quarter, and fewer than 5 per cent of product categories have escaped being hit by some type of protectionist measure. The report also points that many governments are already planning another 134 protectionist measures – the equivalent to half a year's protectionism at current rates. Moreover, G20 Governments, according to the report, have been implemented 121 beggar-thy-neighbour measures (as in October 2009).

¹³⁵ The entire list of the TCMCS is in the UNCTAD Directory of Import Regimes, Part I: Monitoring Import Régimes (UNCTAD/DMS/2/Rev.1 (Part I)), 1994, UNCTAD. See <http://www.unctad.org/trains>

licensing measures; (d) quantity control measures; (e) monopolistic measure; and (f) technical measures (figure 1). These were further subcategorized in accordance with the types of measures under consideration. Measures were listed in accordance to the Harmonized Coding classification. In general, only "sensitive product categories" and "technical regulations" were further subcategorized according to the objectives of the measure (for example, protection of safety, human health, animal health and life, plant health, environment and wildlife). NTMs classification was divided into *Core-Measures* and *Non- Core Measures*, where core measures included measures intended to protect local producers; and non-core measures included measures intended to protect local consumers. The TRAINS database contains a brief description of each NTM, affected or excluded countries and footnotes on the exact product coverage, where available.¹³⁶

Figure 1. The measures and chapters of the old UNCTAD-NTMs classification



¹³⁶ UNCTAD-TRAINS database was also a result of close collaboration effort with a number of regional organizations, including the Associação Latino-Americana de Integração (ALADI), the Secretaría de Integración Económica Centroamericana (SIECA) and the South Asian Association for Regional Cooperation (SAARC), as well as with the Inter-American Development Bank (IADB). Among these partner organizations, ALADI developed a comprehensive NTM database of its member countries, and these data were included in the TRAINS database. UNCTAD-TRAINS does not, however, provide any measurement of the restrictiveness of any specific measure, and needed further improvements, notably with respect to coverage, updatedness and data quality.

While the UNCTAD-TRAINS database remains the most comprehensive database on NTMs, the process of updating the database with the existing classification system had slowed down significantly at the beginning of the 2000s. This was mainly due to key issues including:

- a) Difficulties in identifying NTMs
- b) A growing perception that the TCM coding system did not adequately reflect new measures in certain subcategories
- c) A shortage of resources

The need to update the UNCTAD Coding System of Trade Control Measures (TCMCS) to reflect new practices became all the more necessary in the light of the growing relative importance of non-core NTMs as an instrument of trade policy as shown in Table 1.

Table 1. Changing Nature of NTMs Trend through TCMCS

	1994 (per cent)	2005 (per cent)
Core measures	45	15
Non-core measures	55	85

Source: UNCTAD Secretariat calculations based on UNCTAD-TRAINS database.

This has given rise to a renewed interest in the UNCTAD Secretariat to develop a relevant classification system reflecting today's complex nature of international trading arrangements and mechanisms, and update its TRAINS database accordingly and make it publicly available.

B. Launching of UNCTAD's new initiative on NTMs

UNCTAD's new initiatives on NTMs started with the Ninth Session of the Commission on Trade in Goods and Services, and Commodities, held in Geneva on 14-18 March 2005. It was acknowledged that UNCTAD should examine the effects of non-tariff barriers, decided in accordance with the São Paulo Consensus, to convene an Expert Meeting on Non-Tariff Barriers (NTBs). In the same year, the Expert Meeting on Methodologies, Classifications, Quantification and Development Impacts of Non-Tariff Barriers, held in Geneva from 5 to 7 September 2005.

The focus of the Expert Meeting was primarily on technical and research issues (such as classification and quantification of NTMs) and on strengthening/forming partnerships with relevant international organizations and other stakeholders to deal with NTMs on a comprehensive and long-term basis. In sum, the key objectives of the Expert Meeting were:

- To identify ways to improve, both in terms of country coverage and data quality, the NTM database contained in the UNCTAD TRAINS database
- To clarify methodologies for defining and classifying NTMs according to their nature and source, including clusters of NTMs that are already subject to WTO disciplines
- To review econometric approaches to quantify NTMs that could be applied to improve understanding of NTMs' role in world trade

- To look at experiences of other international organizations in dealing with NTMs, including the WTO, World Bank, IMF, OECD and others
- To assist developing countries, including LDCs, in building their analytical and statistical capacities in assessing NTMs affecting their exports

Supachai Panitchpakdi, Secretary-General of UNCTAD at the Expert Meeting, expressed his intention to set up a Group of Eminent Persons on NTMs drawn from governments, international organizations, academia and civil society. In 2006, the Secretary-General of UNCTAD established the Group of Eminent Persons on Non Tariff Barriers (GNTB).¹³⁷ The main purpose of GNTB was to discuss the definition, classification, collection and quantification of non-tariff barriers so as to identify data requirements, and consequently to facilitate our understanding of the implications of NTMs. To advance the activities on NTMs, the GNTB, comprised of eminent personalities, met for the first time in UNCTAD Geneva on 12 July 2006, and adopted the following terms of reference:

- a) To make recommendations on the definition, classification and quantification of NTMs
- b) To define elements of and draw up a substantive work programme relating to the collection and dissemination of NTM data, with a special focus on issues and problems faced by developing countries
- c) To provide guidance on the further strengthening of UNCTAD's Trade Analysis and Information System (TRAINS) database
- d) To review and make recommendations on capacity-building and technical cooperation activities in favour of developing countries in the area of NTMs
- e) To provide policy advice on inter-agency collaboration and coordination on activities relating to NTMs
- f) To promote cooperation with the donor community
- g) To prepare comprehensive recommendations on follow-up to its work

To carry out the technical work of GNTB, a Multi-Agency Support Team (MAST) was also set up by GNTB. In addition to UNCTAD, MAST is composed of the following organizations: the Food and Agriculture Organization of the United Nations (FAO), International Monetary Fund (IMF), International Trade Centre UNCTAD/WTO (ITC), Organization for Economic Cooperation and Development (OECD), United Nations Industrial Development Organization (UNIDO), World Bank and World Trade Organization (WTO). It was also represented by observers from the United States Department of Agriculture (USDA), the United States International Trade Commission (USITC) and the European Commission. The team is composed of experts drawn from the above international organizations dealing with substantive analysis of NTMs.

¹³⁷ The GNTB was composed of the following eminent persons: Alan V. Deardorff, Professor of Economics and Public Policy, University of Michigan; Anne O. Krueger, Former First Deputy Managing Director, International Monetary Fund (IMF); present Professor of International Economics, Johns Hopkins School of Advanced International Studies; Amit Mitra, Secretary-General, Indian Federation of Chambers of Commerce and Industry; Marcelo de Paiva Abreu, Professor of Economics, Pontifical Catholic University of Rio de Janeiro; L. Alan Winters, Former Director, Development Research Group, World Bank; Chief Economist, Department of International Development (DFID), United Kingdom; and Rufus H. Yerxa, Deputy Director-General, World Trade Organization (WTO).

Under the general guidance of UNCTAD, MAST had the following objectives:

- a) To provide a clear and concise definition of NTMs
- b) To develop a classification system of NTMs to facilitate data collection process and analysis
- c) To devise ways to collect efficiently the information on NTMs, taking into account the existing mechanism of collecting specific elements of NTMs by each member agency
- d) To provide guidelines for the use of data, including their quantification methodology

Since 2006 MAST has held five meetings to discuss the NTMs classification,¹³⁸ identify data sources and data collection mechanisms. A pilot project was designed in order to test the updated NTM classification and the data collection procedures. Seven developing countries, Brazil, Chile, India, the Philippines, Thailand, Tunisia and Uganda were identified as pilot countries.

Meanwhile, the Accra Accord resulting from the UNCTAD XII conference (Accra, Ghana, 20-25 April 2008) emphasized that “meaningful trade liberalization will also require addressing non-tariff measures...where they may act as unnecessary trade barriers... International efforts should be made to address non-tariff measures and reduce or eliminate arbitrary or unjustified non-tariff barriers” (para. 73). In this regard, UNCTAD was requested to “address the trade and development impact of non-tariff barriers”...and databases and software, such as TRAINS/WITS” (para. 96).¹³⁹

All of these international events have provided UNCTAD with a solid footing to convince other international partners to converge to providing global market access information, to foster common prosperity through international trade through an equitable and rule-based multilateral system.

C. Definition and new classification of NTMs

During the MAST meetings, the technical group had come up with the broad definition and classification of NTMs. It was discussed at the meetings that NTMs in a broad sense refers to all type of policy instruments that are not tariffs, and are applied to imported products. Such instruments may or may not affect trade flows. Most importantly, not all measures affecting trade are implemented with discriminatory or protectionist purposes.

It seems that the majority of NTMs fall in two categories: those that are technical barriers to trade and those that are sanitary/phytosanitary measures. Also, such measures may affect trade of only a group of exporters. Some exporters may perceive certain SPS and/or TBT requirement being too stringent and act as a market access barriers, while it may provide those who can adopt the requirement with a competitive advantage.

¹³⁸ The first meeting of MAST was hosted by the World Bank on 18 October 2006 in Washington, D.C. This meeting was followed by further meetings hosted by FAO on 5 April 2007 in Rome; UNIDO on 28 September 2007 in Vienna; OECD on 5 May 2008 in Paris; and ITC on 27 January 2009 in Geneva.

¹³⁹ Available at www.unctad.org/en/docs/iaos20082_en.pdf.

After a series of MAST meetings and consultations, this technical group proposed the following definition of NTMs:

“Non-tariff measures (NTMs) are policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both.”

MAST recognized that a precise and balanced definition of NTBs posed substantial difficulties, and that a distinction between NTBs and NTMs should not be attempted. At the same time, MAST agreed that NTMs cannot be simply qualified as NTBs on the basis of a single piece of regulation and can only be unequivocally identified as such following analysis of detailed data. The group later also agreed that a comprehensive database should be built to only collect data on NTMs. This would leave open the judgment of whether a given measure constitutes a trade barrier and whether the measure has protectionist or discriminatory intent.

MAST concluded that an updated and modified version of the old UNCTAD-TCMCS classification on NTMs was needed to take into account both the economic significance of an NTM, as well as the difficulty in collecting and properly classifying the data (figure 2). The group also recognized that since information on NTMs needed to be collected from various (and often heterogeneous) sources, there was a trade-off between the cost of collecting data and the degree of detail provided by the classification.

The classification of NTMs proposed by MAST and several external experts on NTMs is, therefore, suited for collecting information at different level of detail to reflect the current recourse to the use of NTMs in international trade. It must be emphasized that with respect to TCMCS, the updated classification includes a substantial number of new subcategories on SPS and TBT measures, and introduced a few new categories of NTMs, such as “export measures”, “trade-related investment measures”, “distribution restrictions”, “restrictions on post-sales services”, “subsidies”, “measures related to intellectual property rights” and “rules of origin”.

Another innovative part of the new classification is that it has introduced the concept of “procedural obstacles”, which refers to issues related to the process of application of an NTM, rather than the measure itself. MAST agreed that in a number of cases, it is not the NTM per se that is discriminatory or creates an obstacle to trade, but the actual implementation of the NTM. It was decided that information on problems or other excessive burdens related to implementation of NTMs were to be collected through survey data under the broad term of procedural obstacles (figure 3).

On 5 November 2009, the Secretary-General of UNCTAD convened the meeting in Geneva of the GNTB to finalize the work on the definition, classification. At the meeting, the GNTB members endorsed the definition and new classification system proposed by UNCTAD in conjunction with MAST members. The November 2009 GNTB meeting represents a landmark in the work on NTMs conducted by UNCTAD since the 1980s. Under UNCTAD's umbrella MAST agencies, pilot project governments, regional organizations, national research institutions and private sectors, paved the way for global consensus-building on the definition, classification, collection and to facilitate understanding and awareness of NTMs among the developing countries.

Figure 2. The measures and chapters of the NTMs classification (as of Dec 2009)¹⁴⁰

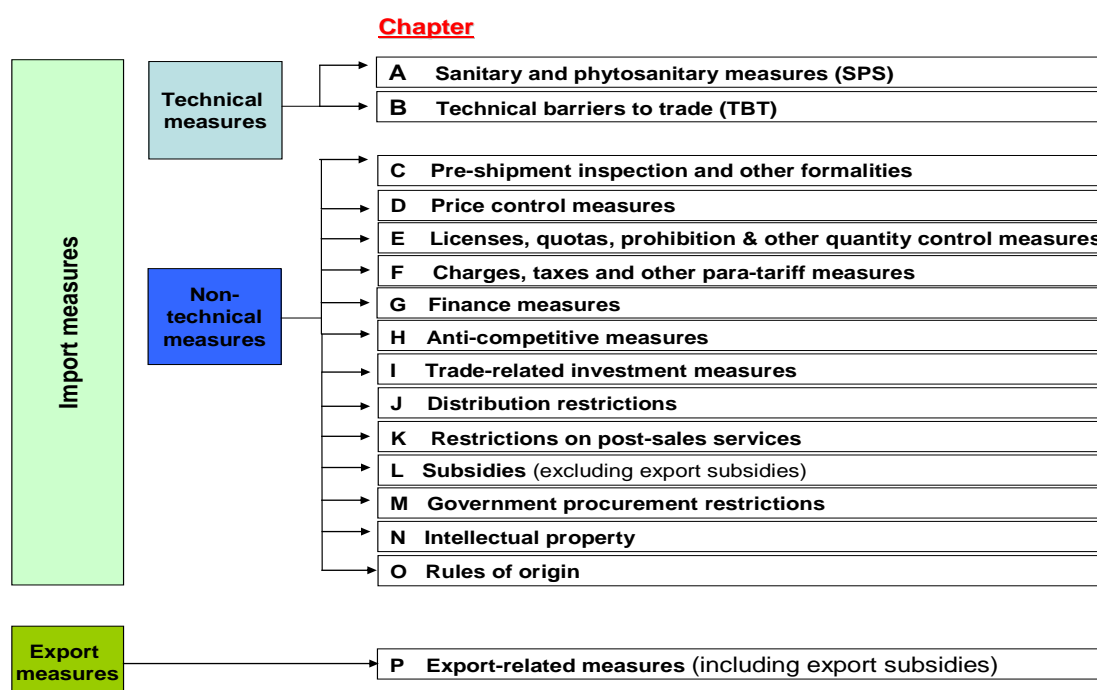
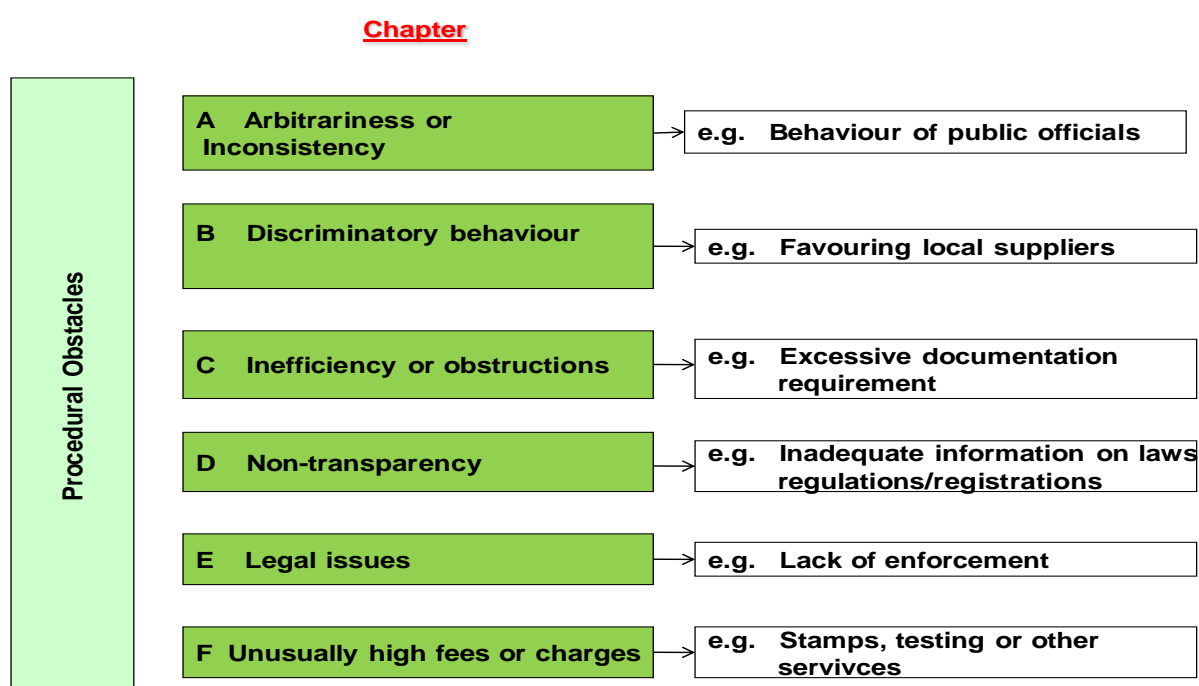


Figure 3. The measures and types of new NTMs – "Procedural Obstacles" classification¹⁴¹



¹⁴⁰ A detailed list of new NTMs classification is available at <http://ntb.unctad.org>.

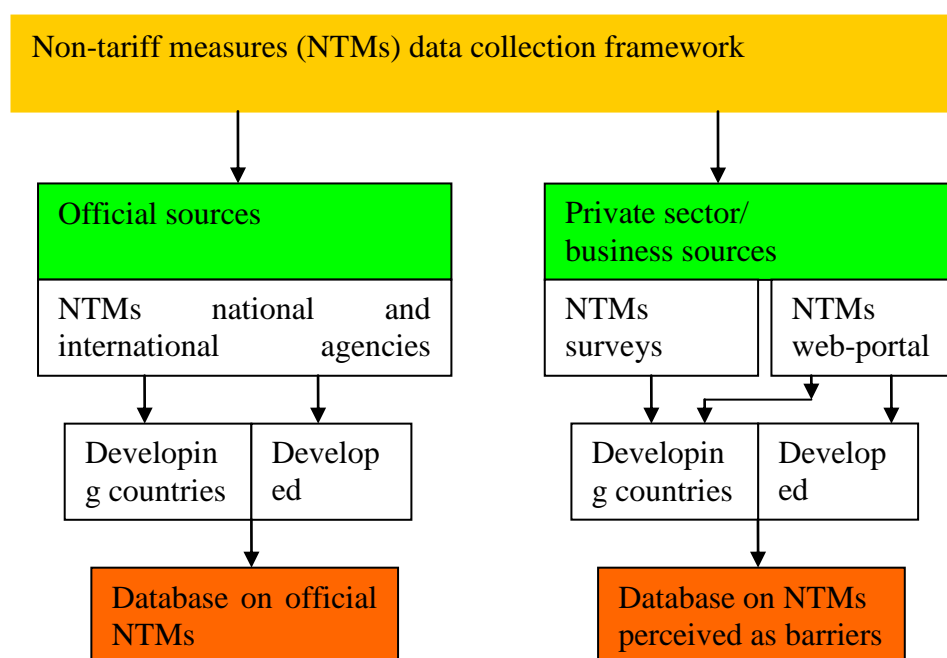
¹⁴¹ A detailed list of new NTMs classification is available at <http://ntb.unctad.org>

D. NTMS pilot project: Some results from the firm-level NTMs surveys

After the initial set of work on creating a new NTMs classification, UNCTAD led a project for data collection on NTMs in selected developing countries. It was recognised that assembling a comprehensive NTMs dataset creates numerous challenges both at the national and international level. In general, the MAST agreed to collect data and information on non-tariff measures through two different channels: collecting data from official sources, and collecting from exporters in the private/business sectors. Moreover, it was also decided to use a web based platform (<http://ntb.unctad.org>) to facilitate reporting of information related to NTMs. Figure 4 summarizes the data collection framework.

UNCTAD started in January 2008 the "Pilot Project on Collection and Quantification of Non-Tariff Measures (NTMs) Database" in five developing countries: Brazil, Chile, India, the Philippines and Thailand.¹⁴² Subsequently, the International Trade Centre UNCTAD/WTO (ITC) joined in this initiative, and extended the project activities to Tunisia and Uganda.¹⁴³ In this paper, we provide results from five original countries in the pilot project.

Figure 4. NTMs data collection framework



¹⁴² The project has been financed by the generous contribution by the Government of Switzerland (Project number INT0T7BA) and by the DFID (UNCTAD India Project).

¹⁴³ Two United Nations regional commissions, the Economic Commission for Latin America and the Caribbean (ECLAC) and the Economic and Social Commission for Asia and the Pacific (ESCAP), supported the pilot project, as did several other national research institutions such as the Philippines Institute of Development Studies (PIDS), National Institute of Development Administration (NIDA), and University of Chile and Centro de Estudos de Integração e Desenvolvimento (CINDES).

The data collection activities of the pilot project in each of these developing countries were carried out by a Country Reporting Officer (CRO) and a specialized survey agency, in collaboration with the UNCTAD technical experts. The CRO acted as the national focal point in the pilot country and was responsible for country-related activities including the identification, collection and monitoring of official and firm-level data.

To obtain the official information, there are various national sources, e.g. the Ministry of Trade, the Ministry of Agriculture, and any National Standard Body were consulted.¹⁴⁴ On the other hand, for the firm-level survey, face-to-face interviews were conducted to obtain information from both exporters and importers as they reported their experiences in any export and import-related problem they faced. The reported cases both from the official sources and private firm-level surveys were then classified into the proper category of non-tariff measures according to the new NTMs classification.

This paper provides some initial results from the firm-level surveys which were conducted in five developing countries. It must be noted that the sample size of firm-level surveys varied across five studied countries, which are diverse in terms of geographical location and economic size, but on average 300 firms, including exporting and importing firms, were interviewed in surveyed country during May 2008 to January 2009 (Table 2). The sampling was targeted toward sectors which were recognized a-priori as facing more stringent NTMs, or sectors that are considered as significant export (or import) sectors based on their shares in a country's total exports (or imports). The preliminary results from the firm-level survey indicate some interesting policy issues both related to the NTMs and procedural obstacles measures.¹⁴⁵

After obtaining information from pilot project countries, the total number of cases was counted, except Brazil. The number of cases has varied across countries due to the sample size of the firm-level survey as well as that of the number of complainants registered. The reported number of cases was categorized based on the firm's export or import activities. Furthermore, the exporting and importing firms could face two types of measures: import measures and export measures. Due to the reliance on exporting firms in the pilot project, the majority of the reported cases were found to be import measures, i.e. exporting firm in *Country A* complains against *Country B* for their exports. So, importing country imposes trade policy measures that can potentially have an economic impact (table 3).

¹⁴⁴ In addition to collecting data, the pilot project aimed at support developing countries in building technical capacity to collect and analyse information on non-tariff measures that are affecting their own exporters. Under the project, initial training sessions were organized for the Country Reporting Officer, national partner institutions, officials of relevant Ministries, Chamber of Commerce and other stakeholders, who were all closely involved in the implementation of the pilot project).

¹⁴⁵ In addition to firm-level surveys, the MAST agreed that information on trade-affecting non-tariff measures can be also collected online through the internet. A prototype of a web-based portal for collecting non-tariff barrier data, the Trade Barriers Reporter, was developed by UNCTAD. The Trade Barrier Reporter ([http:// \(http://ntb.unctad.org\)](http://ntb.unctad.org)) is a global online reporting system for companies involved in international trade, where private-sector companies can report non-tariff measures they face. The online portal is also designed as a dissemination tool. Interested users can access data stored in the database through the portal and compare their experiences with other reports.

The types of measures that were reported as particularly problematic within SPS and TBT measures were those related to the labeling and packaging requirements, and requirements on conformity assessment (e.g. certification, testing and inspection requirements). Other types included those relatively new measures, such as cases pertaining to traceability and the cases related to requirements under the aim of environmental protection in many cases (table 4).

The firm-level surveys also suggest that *procedural obstacles* are very often associated with SPS or TBT measures as they involve procedures of certification, inspection, labeling and clearance. And also, the majority of the procedural obstacle cases are related to the measure called, "inefficiency or obstructions" (table 5).

One of the key objectives of the pilot project NTMs surveys were to test the new NTMs classification and also to understand the measures and procedural obstacles which are being used regularly and complained by (exporting or importing) firms as problems for their trade activities. The firm-level surveys definitely helps to better understand the policy measures of major export destinations of the developing countries such as the United States, European Union, Japan and major emerging developing countries, as well as a good reflection of domestic policies on trade regulations of the pilot project countries.

The results of five countries are described briefly on the basis of firm-level surveys:¹⁴⁶

(1) Brazil: The preliminary look at the firm-level survey (thin-sample size) carried out in Brazil found that export firms had more complaints about domestic administrative measures than foreign measures.¹⁴⁷

(2) Chile: Chile had a sample of 216 firms, including 54 importers, active in all sectors, except services, mining and chemicals. Small firms (Exports < \$US 200,000) were excluded from the survey. The response rate was 0.33 per cent and export-oriented firms accounted for 60 per cent of Chile's exports.

Chilean companies reported a total of 807 NTMs, where 136 related to importing firms. The average number of NTMs per company was 3.7. Twenty-seven per cent of companies experienced no NTMs, and 40.7 per cent were affected by 2 to 5 cases of NTMs. Six companies (2 per cent) had more than 10 cases, five were food exporters, one was a construction company (all large companies) and one went out of business. Of total import related NTMs, 44 per cent of NTM's are SPS, 43 per cent are TBT's, and 11.50 per cent are other NTMs. The remaining 1.6 per cent is related to export- related measures.

¹⁴⁶ The results from official sources are not discussed in this paper. However, the majority of NTMs from the official sources could be grouped into SPS and TBT as well.

¹⁴⁷ A more detailed analysis of the Brazilian firm-level survey was not possible as the survey was launched during the economic crisis, at a time when Brazilian firms were more concerned about domestic issues than dealings with foreign markets. This lead to a certain amount of resistance on the part of surveyed firms and response rates were low. Efforts were made to improve the response but the results were unsatisfactory.

Table 2. Firm-level NTMs survey in seven developing countries (sample size)

Country	Survey reference period	Number of firms	Number of exporting firms	Number of importing firms	Number of firms doing both exporting and importing
Chile	October 2008 to January 2009	216	184	54	22
India	June to September 2008	422	345	77	-
Philippines	May to August 2008	303	299	4	-
Thailand	June 2008 to January 2009	435	430	8	3
Total		1456	1258	143	25

Source: UNCTAD Secretariat calculations based on NTMs Pilot project database.

Note: Brazilian survey was conducted in about 80 firms. However, the survey was not completed in due course, so we are not describing much of the information on NTMs for the private/business sector sources.

Table 3. Counting number of reported NTMs cases

Country	Number of NTMs cases	Number of NTMs cases related to exporting firms	Number of NTMs cases related to importing firms
Chile	807	671	136
India	1129	840	289
Philippines	815	808	7
Thailand	1195	1183	12
Total	3946	3502	444

Source: UNCTAD Secretariat calculations based on NTMs Pilot project database.

Table 4: Counting number of reported NTM cases for exporting firms
(per cent of total cases)

Country	Import measures			Export measures
	Number of reported SPS cases	Number of reported TBT cases	Number of reported Other cases	Number of reported Export related cases
Chile	43.96	42.92	11.48	1.64
India	27.26	44.76	23.81	4.17
Philippines	31.31	48.02	8.67	12
Thailand	44.04	51.56	3.98	0.42
Average	36.64	46.81	11.98	4.55

Source: UNCTAD Secretariat calculations based on Pilot project database

Table 5. Counting number of reported procedural obstacles

Procedural Obstacles classification	Exporting firms:	Importing firms:
	Number of NTMs cases	Number of NTMs cases
(A) Arbitrariness or Inconsistency	903	217
(B) Discriminatory behaviour favouring specific producers or suppliers	239	25
(C) Inefficiency or obstructions	1887	169
(D) Non-transparency	217	37
(E) Legal issues	35	3
(F) Unusually high fees or charges	332	2
Total	3613	453

Source: UNCTAD Secretariat calculations based on NTMs Pilot project database.

It may be noted that Chile faces few barriers, this was perhaps because many of the firms that were interviewed had a long experience in dealing with them, 60 per cent of the firms were export-oriented, and had learned to cope with obstacles. There are more NTMs in Latin American countries, perhaps because of the type of goods that were exported or imported. There is no doubt that the existence of FTAs helps in reducing obstacles to trade. Only a few companies found it too expensive to comply.

(3) India: The Indian survey focused on relevant export and import sectors and on obtaining information on NTMs directly from respondents. It sampled the top 400 products in terms of export value, which represented 83.6 per cent (at HS 6 digit level) from 68 different HS chapters. The focus was also on products with a reported history or sensitivity to NTMs, and companies were chosen from three separate sectors: manufacturing, agricultural and primary goods. In terms of importers, the survey sampled the top 100 products in terms of import value, representing 72.2 per cent of imports.

In India, the project succeeded in identifying NTMs and the procedural obstacles which may affect the ability to trade. Of the 1129 reported cases of NTMs reported by exporters, the large majority were related to SPS and TBT. These measures were largely imposed by the United States, the United Arab Emirates, the United Kingdom and Germany. The top four sectors facing the largest numbers of NTMs were the textile, leather, electrical and electronic goods and food industries. The most important procedural obstacles faced by exporters consisted of arbitrary and inconsistent behaviour and inefficiency or cases of outright obstruction.

(4) Philippines: A total of 303 companies completed the questionnaires and the majority of companies reported at least one NTM case. In the Philippines, 90 per cent of the firms reported one to five NTMs, and nine per cent reported between 6 to 10 cases of NTMs. The majority of cases were export-related measures, such as SPS and TBT; arbitrary or inconsistent measures were among the most represented procedural obstacles. Forty-eight per cent of reported NTMs concerned TBTs, and 31 per cent were related to SPS measures. The third highest category (12 per cent of cases) fell within the category of export-related measures.

A detailed breakdown of NTMs showed that the largest number of TBT cases concerned conformity assessment, and that voluntary standards and technical regulations accounted for 8.4 and 11 per cent, respectively, of NTMs. The largest number of procedural obstacles was related to inefficiency or cases of outright obstruction, followed by cases of arbitrary or inconsistent behaviour. The largest reported number of NTMs concerned exports to the United States (28 per cent), followed by Japan (9.2 per cent). The total number of reported SPS cases was highest for agricultural products and TBT cases for manufacturing cases.

(5) Thailand: A total of 435 companies were interviewed and completed the surveys in Thailand. More than half of these companies were involved in manufacturing and about 20.69 per cent, or 90 companies, were both manufacturing and trading company. Thirty-one companies, or 7.13 per cent, were classified as both multinational and trading companies. The 435 interviewed companies reported 1,195 cases of NTMs, an average of 2.74 cases per company. About 93.79 per cent of interviewed companies reported 1 to 4 cases, 5.98 per cent reported 5 to 9 cases and one company reported 10 cases. In general, the companies that

reported the largest number of cases were trading and multinational companies handling a wide variety of products with different trading partners in several countries.

As a major exporter of agricultural products, Thailand has experienced an increasing number of NTMs applied on its exports, notably SPS. Exporters have lodged a number of complaints with the Ministry of Commerce accusing some importing countries of violating SPS measures. An increasing number of cases of TBT have also been imposed on industrial products imported into Thailand and a rising number of complaints about TBT, particularly in relation to trade with China.

In Thailand, 51 per cent of the reported NTMs concerned TBTs and 44 per cent were related to SPS. The largest number of cases involved rice, followed by crustaceans and fruits. The European Union, the United States and Japan account for half of the countries for which cases have been reported. The majority of cases of NTMs applied by Thailand are SPS and TBT measures.

Only a small proportion of companies are aware of the significance of NTMs. Original equipment manufacturing producers are less concerned about NTMs. Larger firms face more varieties of NTM due to products and customers (destination countries). Some of the NTMs can be explained by the absence of trade facilitation, i.e. insufficient inspection equipment available to handle increasing numbers of shipments, particularly for perishable products, inadequate certified labs, etc.

In summary, the firm-level surveys indicate the following results:

- Total number of firms surveyed: 1,456 firms in 5 countries
- Total number of reported cases of NTMs were 3,946 of which exporting and import measures were 3,502, while importing and import measures were 444

The firm-level surveys also showed that the majority of the NTMs cases were reported as follows:

- Exporting and importing measures: SPS, TBT other technical
- Importing and import measures: SPS, TBT other technical, para-tariff measures

In the case of measures related to procedural obstacles, the survey results pointed out that a total of 4,056 measures were collected and classified, and of which there were 3,613 exporting cases and 453 importing cases related to procedural obstacles. Furthermore, it was found that the majority of the cases were due to *inefficiency or obstructions* related measures of procedural obstacles.

E. Future of global NTMs initiative of UNCTAD

The future work on NTMs is now being discussed so as to expand the coverage of data collection and also to find some methodological framework for impact assessment. The future data collection will mostly depend on official sources of NTMs information and will be validated through some focused questionnaire-based firm-level surveys.

UNCTAD is now proposing, along with the World Bank, WTO and ITC, to launch a multi-year programme on NTMs with the scope of building, updating and a disseminating

free of charge NTMs database, based on the new NTMs classification and covering a large number of countries.

This proposed project on NTMs is expected to include the following:

- To improve collaboration with national, regional and international agencies so as to increase awareness on NTMs related issues and to facilitate data gathering and updating
- To conduct research and policy analysis on the effect of NTMs on trade and economic development
- To offer technical assistance and advisory/training services to developing countries by providing information and analysis on NTMs faced by exporters (and importers)

UNCTAD recognizes that the availability of the NTMs global database will serve the following key objectives including:

1. Global database on NTMs

- Efforts to create a cross-country time series database in UNCTAD-TRAINS on NTMs to evaluate the impact of changes in NTMS on traded goods
- Harmonization of new NTMs classification and procedural obstacles to codify official NTMs information for specific sectors/products and to determine their sources such as links to national laws and regulations number, footnotes, and references.

2. Monitoring of NTMs

- Types of NTMS applied and their product coverage to identify the level of protection in different goods sectors
- Point out timing of NTMS application by countries and subsequently underscore the nature of their usage

3. Analysis and quantification of NTMs

- Quantification and impact assessment of NTMs on trade and economic welfare by incorporating new NTMs classification in simulation-based model framework such as in the CGE and Gravity model
- Explore a cross country comparison of NTMs incidence through calculations of AVE of NTMs at the product and sector level
- Use NTMs and procedural obstacle information for trade facilitations activities
- Seek to understand questions related to impact assessment of NTMs on vulnerable economies, LDCs and landlocked developing countries

The latest UNCTAD-led initiative on NTMs in collaboration with several international, regional and national stakeholders that has so far resulted in a globally accepted definition and new classification of NTMs, has set the ground for a global effort to develop and maintain a comprehensive database of NTMs, which will eventually make research and analysis of NTMs much more timely and reliable. Moreover, better understanding of NTMs would directly and indirectly affect export supply capacity building, competitiveness, and market access and entry, especially for developing countries.

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