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A Comparative Overview of the Incidence of Non-Tariff Measures on Trade in Lao PDR

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Currency Unit = LAK (Lao Kip)
LAK 8,110 = US$ 1.00
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Acronyms and abbreviations

ASEAN	Association of Southeast Asian Nations
ATIGA	ASEAN Trade in Goods Agreement
AVE	Ad-Valorem Equivalent
DIMEX	Department of Imports and Exports
GDP	Gross Domestic Product
GNTB	Group of Eminent Persons on Non-Tariff Barriers
MOIC	Ministry of Industry and Commerce
NRSWG	NTM Review Sub-Working Group
NTM	Non-Tariff Measures
SPS	Sanitary and Phytosanitary
TBT	Technical Barriers to Trade
TDF-2	Second Trade Development Facility
WB	World Bank
WTO	World Trade Organization

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Executive Summary

1. **As a small, land-linked, and commodity-dependent country in a fast-expanding region, Lao PDR's growth prospects are directly linked to its ability to benefit from integration into the global economy.** Over the last decade, the Government has given priority to the integration of its economy into both the Southeast Asia region and the multilateral rules-based trading system. As a result, the country signed the ASEAN Trade in Goods Agreement (ATIGA) in 2010 and became a formal member of the World Trade Organization (WTO) in 2013. Both agreements required profound modifications on tariffs, non-tariff measures (henceforth NTMs), customs reforms, and trade facilitation.

2. **This report provides a comparative overview of the landscape of NTMs affecting imports in Lao PDR.** The effectiveness of the regulatory framework to trade is important for firms and consumer to be able to access imported products in a cost-efficient way as well as for the Government to exercise the adequate control to ensure that products comply with domestic regulations. An efficiency system should also minimize informal trade. This report focuses specifically on the incidence of NTMs in import flows. It provides a comparative overview with respect to other countries in the region and with the situation before WTO accession. Additionally, this report identifies current lingering regulatory hurdles that hamper the ability of the country to reap the gains of a deeper integration with the global economy.

3. **While the accession to the WTO brought Lao PDR NTMs close to the regional practice, the current framework still includes a cumbersome and costly import license scheme that raises the time and costs to bring products into the market.** Three main problems associated with the procedures to obtain licenses are identified. First, because the system to grant licenses is centralized in the capital for the majority of regulated products, rural traders must spend time and resources to obtain the certificates in Vientiane. Second, a lack of coordination between central authorities, in charge of granting licenses, and border agencies, in charge of enforcing the licenses, leaves room for provincial authorities to exercise their own discretion and delay the process. Third, internal procedures and timelines to grant licenses at the central government are not well communicated to the trading community, leaving room for unnecessary delays and encouraging informal payments to be made to expedite the process. Para-tariff fees associated with import licenses applied to approximately US$ 211.5 million worth of imports in 2014 (7% of the total) and are estimated to be equivalent to ad-valorem tariff of 5.4%, which is well above regional and world averages.

4. Besides increasing the costs and the time required to import products, the current license structure may have negative implications for households (specially the poor) and can also encourage importers to resort to informal channels to bring their product into the market, putting the health and safety of consumers at risk. Because traders typically pass part of the extra costs incurred by obtaining the license, the impact of this policy is reflected in the final prices paid by consumers, resulting in a negative welfare impact. The costs associated with the imposition of these measures are large in sectors that are potentially important for domestic consumption (vegetable oil, processed food, and vegetables).

Policy Recommendations

5. Conducting a regulatory impact assessment of import licenses and of their associated fees should be a priority. An immediate step should be reviewing the manner and frequency that fees are collected to reduce the administrative burden associated with applying for and obtaining import licenses for the trading community. This effort must be followed up by a more comprehensive review of licenses in those products that, while important for the daily life of Lao people, do not generate important fiscal revenue to line agencies. Products under this category include bicycles, food preparation items, stoves, baby strollers, and –to a lesser extent, motorcycles.

6. The institutional mandate to review, consult, and propose regulatory modifications to streamline NTMs is already in place at the Ministry of Industry and Commerce (MOIC). The Department of Imports and Exports (DIMEX) serves as the technical secretariat of the NTM Review Sub-Working Group (NRSWG), which is the interagency body in charge of discussing and streamlining proposals made by DIMEX at the highest level of the Government. To ensure that the technical analysis translate into policy actions, it is paramount that the NRSWG is legally enacted by the MOIC.

I. Introduction

1. **An efficient and transparent regulatory framework governing international trade is a necessary condition for countries to realize the benefits of international trade.** Over the last decade, Lao PDR has been deepening its economic ties with the global economy through the formal accession to the WTO in 2013. At the regional level, the country is committed to be full member of the ASEAN Economic Community. These agreements entailed profound changes to Lao PDR's regulatory framework governing international trade.

2. **This report provides an overview of the incidence on NTMs on import flows in Lao PDR before and after WTO accession and identifies lingering regulatory hurdles that may still hamper the ability of the country to reap the gains of a deeper integration.** Employing detailed and comparable NTM information, this note characterizes the changes in the trade-related regulatory framework in Lao PDR and compares the current scheme with that of other countries in Asia. The report also combines econometric estimations of Ad-Valorem Equivalents (AVEs) of NTMs with qualitative information collected through fieldwork to identify priority measure to streamline.

3. **The analysis indicates that the accession process to the WTO brought Lao PDR's NTMs landscape closer to the regional practice.** The reduction of the incidence of NTMs after WTO accession is explained mainly by a remarkable reduction in the prevalence of non-technical measures, particularly quantity controls. Yet, the country still uses this type of regulation with a higher frequency than other countries in ASEAN. In line with international practice, the relevance of technical barriers – technical regulations that lay down compulsory product characteristics or their related processes and production methods – has increased over time.

4. **The current NTM landscape still includes a cumbersome and costly import licensing scheme and an array of para-tariff charges –import taxes and levies other than custom duties– linked to licenses that translate into a complex import regime that raises substantially the time and cost to bring products into the market.** Automatic and non-automatic licenses cover around 34% of imports by value. Three main problems with the procedures to obtain licenses are identified. First, because the system to grant licenses is centralized in the capital, rural traders must spend time and resources to obtain the certificates in Vientiane. Second, lack of coordination between central authorities, in charge of granting licenses, and border agencies, in charge of enforcing the licenses, leaves room for provincial authorities to exercise their own discretion and can lead to delays in the approval process. Third, internal procedures and timelines to grant licenses at the central government are not well communicated to the trading community, resulting in unnecessary delays and incentivizing making of informal payments to expedite the process.

5. **Para-tariff fees associated with import licenses applied to approximately US$ 211.5 million worth of imports in 2014 and are estimated to be equivalent to ad-valorem tariff of 5.4%, which is well above regional and world averages.** The collection of para-tariff used by

Lao PDR include import fees, import licensing fees, stamp tax, customs inspection fees, as well as taxes and additional changes for sensitive product categories.

6. **Taxing imports to generate fiscal revenue for line ministries may have unintended consequences for both the welfare of the community and the competitiveness of Lao PDR's enterprises.** While some developing countries with underdeveloped tax systems tend to tax imports to capture fiscal revenue, the impact of this policy goes beyond raising the cost for traders as they are typically passed on, at least in part, to consumer and are reflected in market prices. The report finds that the costs associated with the imposition of non-technical measures in Lao PDR is high particularly in sectors that are potentially important for domestic consumption (vegetable oil, processed food, and vegetables). Consequently, the current system may have negative welfare implications for households, especially the poor. A costly and complicated import regimen also encourages importers to resort to informal channels to bring their products into the market, putting the health of consumers at risk.

7. **Assessing the necessity and proportionality of para-tariffs linked to import licenses should be a priority for the Government of Lao PDR, particularly in those sectors where imports are important for domestic consumption.** The institutional capacity to undertake this review is already in place as the Department of Imports and Exports (DIMEX) of the Ministry of Industry and Commerce has established a technical working group to review and propose recommendations to streamline binding NTMs. Conducting an analysis on the necessity and proportionally (tests recommended by the WTO to review trade-regulations) of these measures may prove useful to help consumers access imported products and may contribute to reducing the incidence of informal trade. International experiences on streamlining NTMs indicate that a robust technical analysis (regulatory impact analysis) paired with political support at the highest level of the Government increases the possibilities of policy changes aimed at improving the business climate. See Annex 1 for some international experiences on the processes and institutions to streamline NTMs.

8. This report is organized as follows. Section II discusses main conceptual issues and presents the data and metrics to examine the role of NTMs in import flows. Section III, describes the trade incidence of NTMs and compares it with similar countries and with the situation prior to WTO accession. Section IV combines an econometric technique with qualitative information to discuss the stringency of NTMs. Section V presents some concluding remarks and provides some recommendation for reform.

II. Non-Tariff Measures

9. **Broadly defined, Non-Tariffs Measures are regulatory measures, other than ordinary customs tariffs, that may have an economic effect on international trade in goods by changing quantities traded, prices or both** (UNCTAD, 2010). Because of the different types of policies encompassed by this definition, the economic analyses of NTMs and their implications for trade and, ultimately, for economic development, are not yet well understood (Ferrantino 2006). The changing nature of international trade, moving from an exchange in final products to an exchange in intermediate products, also poses challenges for countries to understand how to deal effectively with NTMs (Staiger 2012). This section discusses main conceptual issues to consider when analyzing the role of NTMs and presents a general framework and data sources necessary to conduct a comparative study of the current regulatory framework governing trade in Lao PDR.

A. Conceptual Issues

10. **As statutory tariffs have been dramatically reduced in recent decades under the forces of multilateral, preferential, and unilateral trade liberalizations, NTMs have taken a central role in the international trade agenda.** While the World Trade Organization (WTO) recognizes the right of countries to introduce trade regulations to achieve legitimate non-trade objectives such as protecting human, animal, and plant life; NTMs can also be used as protectionist tools.[1] While every country implements regulations to meet legitimate policy objectives associated with protecting their communities from poor quality or potentially unsafe goods entering their markets, they need to recognize that excessive or poorly designed regulation often increases the cost of doing business and therefore, the final price paid by consumers.

11. **Regardless of their objectives, NTMs have far reaching economic effects beyond raising trade costs.** Countries imposing NTMs may inadvertently end up hurting the poor –as NTMs may increase the price of key staples– and hampering the competitiveness of their own private sector –as NTMs may affect the price of imported inputs in products that are ultimately exported. Likewise, NTMs applied by other trading partners' also have a direct impact on the ability of firms to enter and survive in foreign markets.

12. **The significance of NTMs in increasing trade costs is important.** In average, estimates of tariff equivalents of NTMs tend to be higher than tariffs across the world. Kee et al (2009), for instance, find that NTMs add, on average, an additional 87% to the level of trade restrictiveness imposed by tariffs, and note that for 34 countries (of a sample of 78) the contribution of NTMs to the overall level of restrictiveness is higher than the contribution of tariffs. Similarly, Calvin and

[1] The multilateral discipline on non-tariff measures encourages countries to employ international standards for technical regulations, when possible. In addition, the Technical Barriers to Trade (TBT) and the Sanitary and Phytosanitary Measures (SPS) agreements indicate that regulations must be science-justified, not more trade-restrictive than needed, and must be applied in a non-discriminatory fashion.

Krissoff (1998) show that the tariff equivalent of NTMs on US apples exported to Japan is 27.2%. This estimate significantly exceeds the average tariff rate of 19.3%. Results from businesses surveys also indicates that burdensome trade-related regulations are binding factors impeding the ability of firms in low and middle income countries to increase their competitiveness (Henson et al 2000).

13. **However, NTMs cannot be simply dismissed as trade barriers that ought to be removed.** Results from gravity type models including Disdier et al (2008), Fontagné et al (2005), Portugal-Perez el al (2010), and Reyes (2012) indicate that while NTMs increase trade costs, they can also be trade promoting. This is because certain NTMs, such as product standards and labeling requirements, provide firms valuable information about domestic technology, idiosyncratic tastes, and consumer preferences that would be very difficult and costly to obtain otherwise. These regulations may also be welfare-enhancing because they provide consumers with information thereby lowering the cost of determining the quality of a product (avoiding the 'lemon problem'), facilitating comparison, and reducing uncertainty (Crivelli and Gröschl 2012, Disidier et al 2008, and Ganslandt and Markusen 2001).

B. Taxonomy and Data Collection Process

14. **Given the encompassing definition of NTMs, the Secretary-General of UNCTAD established in 2006 a Group of Eminent Persons on Non-Tariff Barriers (GNTB) to define a classification of NTMs, which could be used to collect comparable information across countries.**2 The subsequent NTM nomenclature developed by GNTB comprises a tree/branch structure. Measures with similar objectives are categorized into 16 "branches" (chapters) denoted by alphabetical letters A to P. Chapters A to O specify the requirements the importing country imposes on imports, while Chapter P details those regulations they place on their exports. Each of these 16 "branches" is further disaggregated into "sub-branches" (1-digit), "twigs" (2-digits) and "leafs" (3 digits) allowing for a finer classification of NTMs. Table 1 presents the structure of the NTM nomenclature at the highest degree of aggregation.

[2] The GNTB established a Multi-Agency Support Team (MAST) which comprised representatives from several international organizations, including the Food and Agriculture Organization of the United Nations (FAO), the International Monetary Fund (IMF), the International Trade Centre UNCTAD/WTO (ITC), the Organization for Economic Co-operation and Development (OECD), the United Nations Industrial Development Organization (UNIDO), the World Bank and the World Trade Organization (WTO).

Table 1. Non-Tariff Measures Classification

Imports	**Technical Measures**	A. Sanitary and Phytosanitary Measures (SPS)
		B. Technical Barriers to Trade (TBT)
		C. Pre-Shipment Inspection and other Formalities (PSI)
	Non technical Measures	D. Contingent Trade-Protective Measures
		E. Non-Automatic Licensing, Quotas and other quantitative controls (QC)
		F. Price Controls (PC)
		G. Financial Measures
		H. Measures affecting Competition
		I. Trade-Related Investment Measures
		J. Distribution Restrictions
		K. Restrictions on Post-Sales Services
		L. Subsidies (Excluding Export Subsidies under P7)
		M. Government Procurement Restrictions
		N. Intellectual Property
		O. Rules of Origin
	Exports	P. Export-Related Measures

Source: UNCTAD 2012

15. **During the last four years, the international community has collected and classified trade regulations according to this NTM taxonomy.** Currently NTM data is publically available for 51 countries, including information for Lao PDR collected in 2011 (Annex 2). The information is made public through the World Integrated Trade Solution website (http://wits.worldbank.org) –the World Bank's gateway for trade data and analysis.

16. **Given that the WTO accession process involved a series of regulatory changes to align the country with multilateral disciplines, we updated the NTM data in 2014 from information stored in the Lao PDR Trade portal.** The Lao trade portal is a recently developed online platform that centralizes the regulations and procedures that are compulsory for traders to export and import products. Box 1 presents a brief overview of this tool as of its importance to increase the transparency of trade. With the support of DIMEX, the regulations were matched to NTM and HS codes. This report therefore employs two waves of NTM data in Laos collected in 2011 and 2014, in conjunction with similar data collected in other countries around the globe, to assess the extent to which NTMs in Lao PDR changed after WTO accession and to determine how it compares with other countries in the region.

BOX 1: THE LAO TRADE PORTAL – MAKING TRADE MORE TRANSPARENT

The Lao PDR Trade Portal (www.laotradeportal.gov.la), launched by the Ministry of Industry and Commerce on June 22, 2012, enables traders to cut down the number of trips needed to get information or the length of time for carrying out transactions when trading across borders. In a transitional economy such as Lao PDR, new firms often find it difficult to get information on business processes. The private sector has identified a lack of transparency and predictability surrounding regulations as a major investment climate constraint. It is also the first step towards the establishment of a National Single Window which will allow traders to discharge all import/export obligations through one channel electronically.

The Lao PDR Trade Portal provides traders with access to:

- All trade-related laws, regulations, measures, restrictions and licensing requirements and tariffs indexed, cross-referenced, and searchable by commodity code;
- Non-tariff measures (NTMs)
- Detailed process maps of business procedures for importing and exporting;
- Full listings of national standards for products;
- Procedures for clearing goods at the border;
- Downloadable forms; and,
- E-alerts which traders can customize to receive information on commodities.

As of June 2015, all line ministries vetted the information and authorized the publication of collected and classified NTMs in the Lao Trade Portal. All 370 measures were uploaded and published in the Lao PDR Trade Portal. Within these, 226 measures are NTMs based on the UNCTAD NTM Classification System and 144 measures are considered as national standards (i.e. voluntary measures).

The Lao PDR Trade Portal is now fully operational, content is up-to-date, and the portal platform is stable and remains relevant to the needs of traders. Similar portals are now being implemented with support from the World Bank in several developing countries including Lesotho, Bangladesh, Cambodia, Nepal, Malawi and Botswana and work will soon commence on one in Vietnam. The trading community continues to provide positive feedback on the Lao PDR Trade Portal. As of end of March 2015, cumulative hits on the home page total 211,007 since its launch in June 2012 with 43 percent representing hits that dive down into rich portal content. Content searches for legislation made of 17.2 percent, commodity search (14.4 percent) and import and export manual (10.2 percent). By country of origin search, more than 56 percent of hits were from Lao PDR, followed by Thailand (8.1 percent), Vietnam (4.3 percent) and USA (4.2 percent). Between January and March 2015, there were 28 queries posted on the feedback facility regarding import, export and transit information and procedures. DIMEX responded to these inquiries almost instantly.

The Lao PDR Trade Portal is also helping Lao PDR comply with WTO and ASEAN commitments that require member countries to make their trade-related regulations available to the public in an easily accessible manner.

17. **The data provides comprehensive information about the different type of NTMs that are currently enacted in each country.** Each regulation is classified according to the highest level of disaggregation of the 2012 UNCTAD NTM classification and assigned to the specific product(s) (6-digit HS codes) covered by the regulation. While the data contains information on whether the measures are aimed at individual trading partners or are applied irrespective of them, we keep only those measures applied on a MFN basis. The data also contains information about the entry date of each measure as well as the agency responsible for its administration and enforcement. We focus the analysis on NTMs affecting imports as they cover the lion share of regulations government trade. In particular, we look at the complete set of technical measures (sanitary and phytosanitary measures, technical barriers to trade, and pre-shipments inspections requirements) and at a subset of non-technical measures (price and quantitative controls).

III. Incidence of Non-Tariff Measures in Imports

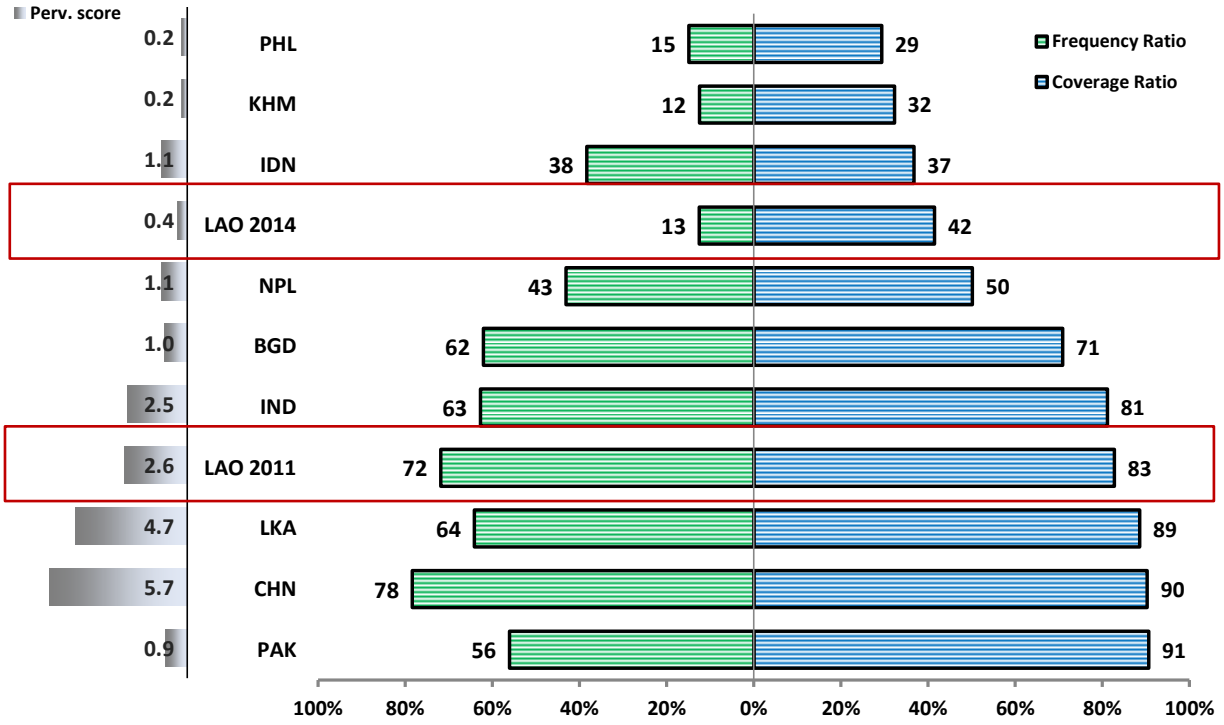
18. **A quantification of the incidence of NTMs in trade flows requires the definition of clear metrics to compare their relevance across countries, economic sectors, and type of regulations.** We employ standard inventory measures to characterize the change in the trade-related regulatory environment in Lao PDR after WTO accession (Deardorff and Stern 1998) and to compare its current situation with that of other countries in the region. The indicators comprises the percentage of product lines covered by at least one NTM (frequency ratio), the share of the total import value impacted by at least one NTM (coverage ratio), and the average number of NTMs applied to a given product (the pervasiveness score). See Annex 3 for the formal definition of these indicators.

19. **Despite the thorough definition of the proposed indicators, it is worth noting that they do not identify whether NTMs serve as a barrier to or catalyzer of trade**. The data solely identifies the products that are affected by different types of regulations along with their respective import value. In addition, given the nature of the data, we cannot observe implementation or enforcement problems. The analysis is also heavily dependent on the diligence of the data collection process, which in the case of the data for Lao in 2011 was undertaken by a consultancy company.

A. A comparative Snapshot

20. **The prevalence of NTMs in imports in Lao PDR decreased after WTO accession, indicating that the alignment of the country to multilateral disciplines resulted in less intervention to trade flows.** After WTO accession, Lao PDR reduced the percentage of products covered by at least one NTM from 72% -the second largest frequency ratio in the sample- to 13% -the second lowest level of the sample – (Figure 1). A similar trend can be observed in the case of the coverage ratio where the reduction goes from 83% to 42% of the import value that is subjected to at least one NTM. The number of NTMs that are applied to the average import product (pervasiveness score) was also significantly reduced after WTO accession. In 2011, this number was equivalent to 2.6, the third highest across comparable countries. By 2014, this measure had fallen to 0.4, the third lowest.

Figure 1. Prevalence of NTMs in Asia
(latest available data)

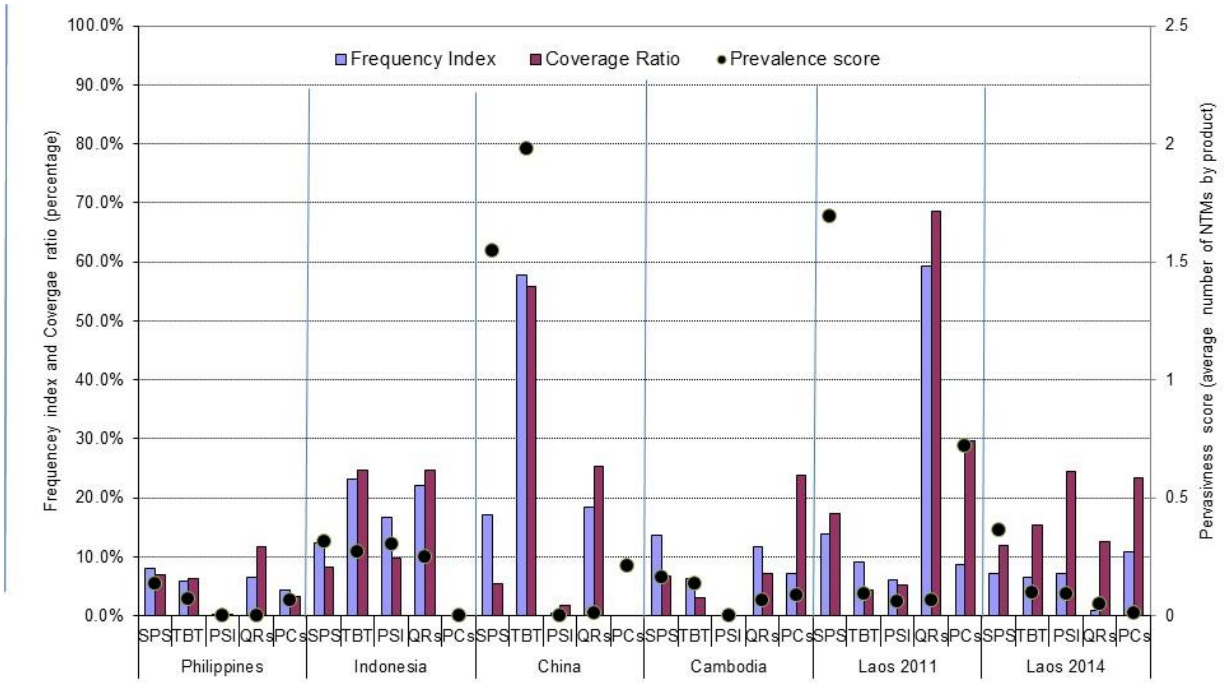


Note: This figure depicts coverage ratios, frequency ratios, and prevalence scores for the two waves of data in Lao PDR and compares them with the latest information available for other countries in Asia, for which data is available.
Source: Authors' calculations

21. **The reduction in the incidence of NTMs in imports is explained mainly by a notable reduction in the prevalence of non-technical measures, specifically the use of quantity controls. Yet, the country still employs these measures in a higher frequency than other regional countries, such as Indonesia and Philippines.** Although non-technical measures are progressively losing ground around the globe, the ASEAN region still makes frequent use of quantitative measures and price controls (Figure 2). These so called 'command and control measures' are likely a remnant of earlier periods when several countries were managed as centrally planned economies. Lao PDR and Cambodia, the least developed countries in the sample, apply more price controls measures than China, Philippines, and Indonesia.[3] However, during the same period the incidence of technical regulations has increased. In fact, the share of imports covered by TBT measures (coverage ratio) increased from 5% in 2011 to 16% in 2014. The import incidence of SPS measures, however, shows a small reduction.

[3] Comparison with Thailand and Vietnam are impossible because NTM data is unavailable for these countries.

Figure 2. Prevalence of NTMs in ASEAN, by NTM Chapters and Countries



Note: This figure depicts inventory measures by type of NTM for ASEAN countries with available data.
Source: Authors' calculations

22. **While Lao PDR now relies less on non-technical measures to regulate imports, its current stock of NTMs still indicates the prevalence of a number of para-tariff charges as well as a cumbersome licensing system that translates into a complex and pervasive import regime and raises substantially the level of protection.** Para-tariffs –import taxes and levies other than customs duties– affect 23% of imports by value. In developing countries where the domestic tax system is underdeveloped, it is not uncommon for Government agencies tend to use these instruments to capture fiscal revenue to finance their operating expenses.

23. **Import licenses (both automatic and non-automatic) also cover a significant share of import value (21.8% and 12.6%, respectively), increasing the cost of doing business.** Figure 3 shows a network representation at the 2-digit NTM code level of disaggregation that portrays the current landscape of NTMs in the country. The most prevalent measures in Lao, as judged by the coverage ratio, are additional taxes in connection to services provided by the Government (category F6) and other automatic licensing measures (category C4). These measures covered, respectively, 23.1% and 21.8% of import value in 2014. The importance of these measures in Lao contrast international evidence where technical measures are the most prevalent NTMs, in particular conformity assessment for both SPS and TBT measures. Annex 4 presents the network representation for the world as a whole.

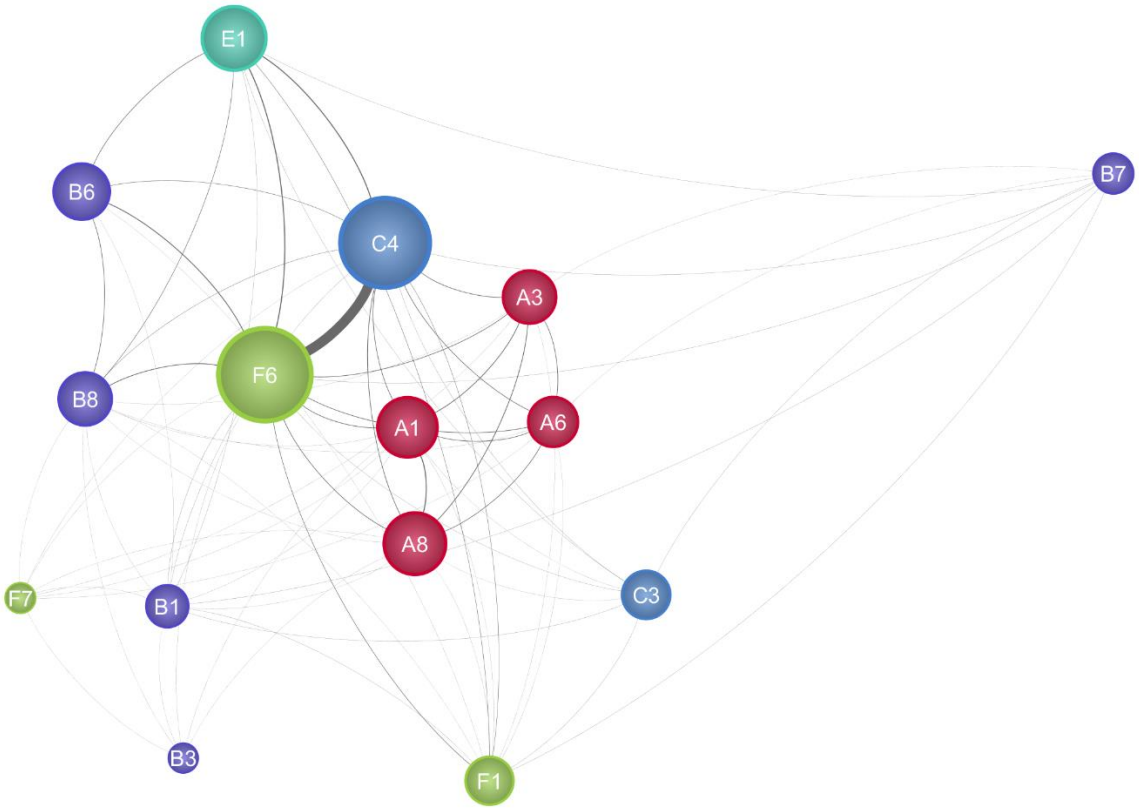
B. Incidence of NTMs on sectoral Imports

24. **The prevalence of NTMs varies greatly across sectors both for technical and economic reasons.** While some products, such as agriculture, electric machinery, and weapons, are highly regulated because of consumer and environmental protection issues, some other goods are by their nature less subject to laws and regulations.

25. **The reduction of the use non-technical measures after WTO accession was driven by a substantial decline in quantity controls across all economic sectors. However, this reduction was partially offset by a larger share of products subjected to price control measures (para-tarrifs) affecting mainly vehicles, optical and medical instruments, processed food and beverages, fats and oils, and wood products.** Examining the incidence of different types of NTMs at the sectoral level (Table 2), we find that in 2011 almost all economic sectors were affected by quantity controls whereas in 2014 these measures were restricted to vehicles, mineral products, and oil. At the same time, the number of products affected by price control measures (para-tariffs) increased. In particular, vehicles, optical and medical instruments, processed food and beverages, fats and oils, and wood products are currently affected by an array of para-tariff measures; which include import fees, import licensing fees, stamp duties, customs and other border management agency inspection fees, as well as additional taxes and charges for sensitive product categories.[4] Fees associated with licenses (category F65) are the most pervasive type of para-tariff measure, covering almost 14% of total imports in 2014.

[4] The analysis using coverage ratios shows broadly the same results in terms of sectoral incidence of NTMs. See Annex 5.

Figure 3. The current Landscape of NTMs in Lao PDR
-A Network Representation-



NTM	Description	CR	NTM	Description	CR
F6	Addition taxes in connection to services provided by the Government	23.1	A6	Other requirements on production	7.5
C4	Other automatic licensing measures - import monitoring and surveillance	21.8	C3	Specified port of customs requirement	6.9
E1	Non-Automatic import licensing	12.6	F1	Administrative measures affecting custom value	6.8
A8	SPS conformity assessment	11.8	B1	Prohibitions/restrictions of imports for objectives set out in the TBT Ag.	4.7
A1	Prohibition/restrictions of imports for SPS reasons	11.0	B7	Product-quality requirement	4.0
B6	Product identity requirement	9.6	F7	Internal taxes levied on imports	0.5
A3	Labelling, marking, and packaging requirements	8.6	B3	Labelling, marking and packaging requirements	0.2
B8	TBT conformity assessment	8.6			

Notes: The figure depicts the trade-related regulatory framework in Lao PDR. Each node represent a type of NTM at the 2-digit. There are 33 type of NTMs at the 2-digit level: 21 technical measures (8 SPS, 8 TBT, and 5 PSI); 12 non-technical measures (4 quantity controls and 8 prices controls). Node sizes are proportional to the coverage ratio (the share of import value affected by each measure). The position of each node in the map reflects its connectedness in the network. Nodes with many relevant connections tend to be situated around the core of the network. Links represent the join importance of the pair of measures (joined coverage ratio). The table at the bottom presents the description and the coverage ratios of the nodes. Data is for 2014.

Source: Authors' computations.

Table 2. Lao PDR: Frequency Ratios across Economic Sectors (Percentages)

		2011					2014				
		Technical			Non-Technical		Technical			Non-Technical	
		A: SPS	B: TBT	C: PSI	E: QC	F: PC	A: SPS	B: TBT	C: PSI	E: QC	F: PC
01-05	Live animals	96.1		13.2	82.9	47.3	28.7		17.8		12.4
06-14	Vegetable products	98.4		98.4	96.7	6.6	54.4		48.4		
15	Fats and Oil	100.0			100.0	37.9	62.1		62.1		62.1
16-24	Processed food & beverages	97.7		10.5	94.7	32.2	50.9	1.2	50.9		51.5
25-27	Minerals products				1.7	8.5	1.7	1.7	8.5	8.5	
27	Oil Minerals				34.5	34.5		3.4	13.8	13.8	20.7
28-38	Chemical products	8.8		5.7	14.9	11.8	7.6	12.0	0.2	0.2	12.2
39-40	Rubber and Plastics					1.5		8.7			8.2
41-43	Raw hide and skins										
44-46	Wood					5.8		-	-		53.8
47-49	Paper		91.0		93.7			0.8	3.2		
50-63	Textile	-	89.0	-	100.0			0.2			
64-67	Footwear				100.0						
68-70	Stone and Cement	-	90.0	-		6.0		1.5			1.5
71	Pearls	-	86.0	-	58.1			3.2		3.2	
72-83	Base Metals	-	81.0	-	20.7	2.7		0.2	5.0		0.4
84-85	Machinery & Electrical		94.0		100.0	9.0		3.9	0.3		4.9
86-89	Motor Vehicles				100.0	19.3		63.9	24.4	24.4	64.7
90-92	Optical and Medicals instruments	-	12.0	-	16.9			36.1			36.1
93-96	Miscellaneous goods		22.0		34.1	12.7		2.4			7.1

Note: This table compares frequency ratios of NTMs by type of measure across economic sectors in Lao PDR between 2011 (before WTO accession) and 2014 (after WTO accession). Each cell represents the share of tariff lines (6-digit HS codes) affected by at least one NTM as a share of total tariff lines in each sector.
Source: Author calculations.

26. **The use of Sanitary and Phytosanitary measures in Lao PDR tends to be in line with international norms and are primarily concentrated in animal, vegetable and foodstuff segments as the control of such products is essential for ensuring the wellbeing of consumers and the protection of the environment.** Technical Barriers to Trade (TBT) measures are understandably more dispersed across sectors, with a concentration in vehicles and optical and medical instruments. Pre-shipment inspection requirements (mostly automatic import licenses) were expanded from vegetable sectors before WTO accession to many agricultural products after WTO accession.

27. **Import license fees (category F65) are the most important para-tariff currently in effect in Lao PDR.** Around US$ 211.5 million of imports (7% of total import value) were covered by these fees in 2014. This requirement is applied to a wide range of products (Table 3). However, given their relative importance in terms of imports flows, only petroleum, cars, motorcycles, and auto-parts are significant for fiscal revenue purposes. These sectors represent 92% of the value of imports affected by this measure.

28. **There are several products affected by import license fees that do not make a significant contribution to revenue and could, instead, encourage rent-seeking activities, as well as increasing the cost of importing products, and generating unfair delays for the trading community.** A total of 35 products (4-digits HS codes) account for 7.4% of imports by value in 2014 (Table 3). Among this group, several products are particularly important for the daily life of Laotians including bicycles, food preparation items[5], bicycle parts, stoves, and baby

[5] The product code at the 6-digit HS is Other food preparations (210690)

strollers. The complete list of the products affected by licensing fees is provided in annex 6. Assessing the necessity of fees linked to import licenses for these products would facilitate imports without adversely affecting fiscal revenue. Given the popularity of motorcycles in the country, it may be timely for the Government to reassess the role of licensing fees on these products. As discussed above, the current requirements also provide unnecessary opportunities for rent seeking behavior from low level officials.

Table 3. Top Products Covered by Import License Fees (F65)

HS4	Sector	Import Value	Share	Cum. Share
2710	Petroleum Oil	60.6	28.7	28.7
8704	Motor vehicles for transport of goods	37.3	17.6	46.3
8703	Motor cards & vehicles for transporting persons	34.9	16.5	62.8
8701	Tractors	23.5	11.1	73.9
8711	Motorcycles	10.5	5.0	78.9
8705	Special purposes motor vehicles	8.5	4.0	82.9
4011	New pneumatic tires	6.6	3.1	86.0
8702	Public-transport type passenger motor vehicles	5.8	2.7	88.8
8408	Ignition engines	5.3	2.5	91.3
8708	Part & acess for motor vehicles	2.9	1.4	92.7
--	Rest sectors (35 products)	15.6	7.4	100.0
	Total	**211.5**		

Note: This table shows the main sectors (4-digit HS codes) that are affected by import license fees in 2014. Import value is in millions of US dollars. In the case of pneumatic tires, a license is required only when the tires are imported for further processing purposes. If the tires are imported for distribution to final consumers, an import license is not mandatory.
Source: Author calculations.

IV. How Stringent are Non-Tariff Measures?

29. **Regardless of their type or the legitimate policy objective, NTMs increase compliance costs for the private sector.** For example, importers of processed foods currently face not only standard technical regulation that are intended to protect Lao PDR consumers, but also a complex system of non-technical measures (such as para-tariff charges or licensing fees), which significantly increase the cost of bringing lawfully goods across the border. At least some of these costs will be passed onto consumers via increased domestic prices —the amount that is passed on to consumers depends on many observed and unobserved producer and market characteristics—and should be measured. Unnecessarily high compliance costs will also encourage importers to resort to informal channels to bring in their products, putting the health of consumers at risk.

30. **The following section examines the level of stringency of the current regulatory framework governing trade at three different levels.** First, we employ an econometric model to estimate ad-valorem equivalents (AVEs) of NTMs. Second, we report traders perceptions on

binding regulatory constraints gathered through focus groups discussions. Third, we report regulatory complaints reported by Lao PDR's main trading partners.

31. **There are two ways of looking at the impact of NTMs in trade flows: through prices or through quantities.** When a country imposes a cost-raising NTM on a certain good, that good's price rises on the domestic market. If the regulatory measures are non-discriminatory as mandated by WTO rules, the price rise reflects a cost increase that is the same for imported and domestically-produced brands of the good. The price rise, in turn, reduces demand for both imported and domestically-produced products. Thus, there are conceptually two ways of approaching the demand-reducing effect of the measures: (i) by looking at the price increase, or (ii) by looking at the reduction in the quantity demanded. Both approaches raise data and estimation issues. See Ferrantino (2006) for a discussion about the econometrical methodologies to estimate the impact of NTMs.

32. **This report uses a price-based model to estimate the impact of NTMs on border prices in Lao PDR.** Using the empirical model explained in Annex 7, we estimate AVEs in Lao PDR in 2014 and compare them with the average in the Southeast Asia region and in the world. The analysis is performed by economic sector and by type of NTMs. Non-technical measures are pulled consolidated in the 'rest' category.

33. **This analysis indicates that the current NTMs framework in Lao PDR is equivalent to an overall ad-valorem tariff of 6.3% (Table 4)**. This percentage is lower than the averages for the region (9.3%) and the world (8.3%). The relative low impact of NTMs in border prices reflects the low-level of technical regulations enacted by the country in comparison to more developed economies. In fact, AVE for both SPS and TBT measures are slightly lower than the world average. SPS measures, in particular, have much lower AVEs in Lao PDR (2.5%) than in the region (5.8%) and the world (4.0%).

Table 4. Ad-Valorem Tariff Equivalents (Average 2014)

		Lao PDR				East Asia Region				The World			
		All	SPS	TBT	Rest	All	SPS	TBT	Rest	All	SPS	TBT	Rest
01-05	Live animals	4.9	3.3		8.1	15.4	12.4	2.3	0.4	20.0	13.7	4.7	0.3
06-14	Vegetable products	14.7	9.7		19	13.5	11.4	1.8	0.1	16.9	11.9	3.5	0.2
15	Fats and Oil	16.8	15.4		26.1	7.1	3.3	3.4	0.2	11.4	4.1	6.4	0.2
16-24	Processed food & beverages	19.9	16.7	0.3	23.0	16.7	11.1	3.9	0.3	18.8	12.8	4.5	0.2
25-27	Minerals products	2.3	0.4	0.4	2.9	5.0	1.6	3.1	0.1	5.1	0.4	4.2	0.1
28-38	Chemical products	4.6	1.2	3.2	8.9	6.9	2.9	2.8	0.6	6.9	0.9	5.1	0.1
39-40	Rubber and Plastics	2.9		2.9	3.3	5.9	3.6	1.9	0.2	5.7	0.5	4.4	0.1
41-43	Raw hide and skins	0.0				6.6	5.5	0.7	0.2	4.6	2.2	1.6	0.1
44-46	Wood	0.0		0.0		8.3	6.7	1.6	-	6.2	4.1	1.6	-
47-49	Paper	1.1		0.0	1.4	4.7	3.5	1.1	0.1	3.1	0.6	1.7	0.0
50-63	Textile	0.1		0.1	0.2	15.8	6.4	3.4	1.3	11.3	0.8	7.0	0.9
64-67	Footwear	0.0				10.7	7.6	1.3	0.7	5.7	0.8	3.3	0.2
68-70	Stone and Cement	0.3		0.3	0.3	7.8	5.8	1.8	-	5.8	1.0	4.3	0.0
71	Pearls	0.5		0.5		9.0	3.9	4.6	0.2	2.9	0.4	2.4	0.0
72-83	Base Metals	1.5		0.2	1.4	6.8	4.8	1.0	0.4	6.4	0.7	2.5	0.5
84-85	Machinery & Electrical Equipment	2.3		2.1	2	10.1	7.3	2.1	0.3	7.3	1.5	4.2	0.3
86-89	Motor Vehicles	34.6		30.6	2.7	9.6	6.2	2.8	0.3	8.6	0.5	6.4	0.5
90-92	Optical and Medicals instruments	13.7		13.7	37.4	10.0	6.5	3.2	0.1	7.2	0.5	5.2	0.0
93-96	Miscellaneous goods	0.0		0.0	19.7	5.9	0.0	5.9	-	4.1	0.0	3.1	0.4
	Overall	**6.3**	**2.5**	**3.9**	**5.4**	**9.3**	**5.8**	**2.6**	**3.3**	**8.3**	**3.0**	**4.0**	**0.2**

Note: This table shows the average AVE estimated for each economic sector in Lao PDR, the East Asia Region, and the World. NTMs are divided into SPS, TBT, and others, which include price and quantitative controls.
Source: Author calculations.

34. **However, non-technical measures in Lao PDR are equivalent to a larger tariff rate than in the region or the world, indicating the pervasiveness effect of these measures for importers.** The estimated AVE for this type of NTMs (labeled as 'Rest' in Table 4) is of 5.4%, which is well above the regional (3.3%) and the world (0.2%) averages. As shown in Table 2, para-tariffs represent the largest share of non-technical NTMs imposed by the country. The sectors where non-technical NTMs have a higher incidence in terms of ad-valorem equivalents are fats and oil (26.1%), processed food and beverages (23.0%), optical and medical instruments (13.7%), and chemical products (8.9%).

35. **The evidence presented here indicates that the implementation of non-technical measures contributes to a complex import regime that increases the cost of doing business across borders in sectors that are potentially significant for domestic consumption, such as vegetable oil and processed foods.** As traders may pass at least part of these extra costs on to consumers, such regulations may have negative welfare implications for households in Lao PDR, particularly for the poorest segment of the population. A pervasive import regime also incentivizes informal trade, which according to several observers remains a significant problem in Lao PDR (see USAID 2013 and Anderson et.2009).

A. Private Sector Perceptions

36. **Import licenses were also identified by private sector representatives as key regulatory hurdles that increase the cost and time to import goods.** In March 2015 the Ministry of Industry and Commerce, in collaboration with the World Bank, conducted a series of focal group discussions with representatives of food and manufacturing sectors to discuss their experiences importing products into Lao PDR and to identify key regulatory bottlenecks affecting their businesses. While the econometric estimation of the level of stringency of NTMs is useful to benchmark the cost-raising impact of NTMs across different countries, the aggregate level of analysis at which they are computed impedes the identification of the specific measure that is responsible for high level of AVEs. Therefore, the econometric analysis was complemented by discussions with private sector representatives who shared their experience in complying with trade regulations on the ground.

37. **According to the private sector, the way trade licenses operate is detrimental to the business environment for three main reasons**. First, because the majority of licenses are granted in Vientiane, traders in rural areas must go to the capital to apply for permit.[6] Second, the system leaves room for discretion for provincial authorities to request more information (or documentation) than what required for in the license. Third, internal procedures and timelines to grant licenses at the central government level are not well communicated to the trading community, leaving room for unnecessary delays and encouraging the use of informal payments to expedite the process.[7] Other important constraints mentioned by private sector representatives include the lack of automation of procedures at the border in agencies other than Customs and a broader lack of coordination between central government officials and provincial authorities.

B. Trading Partners Assessments

38. **Many countries periodically monitor regulatory barriers in partner countries that can potentially affect the ability of their exporters to access markets according to the rules established under bilateral or multilateral agreements.** For instance, the U.S. Trade Representative (USTR) submits an annual report to the U.S. Senate on significant foreign regulatory trade barriers, which provides an inventory of the most important foreign barriers affecting U.S. export of goods and services. Likewise, the Directorate-General for Trade of the European Commission maintains an online database listing trade barriers reported to the Commission as detrimental for EU market access throughout the world. A similar online system has been developed in East Africa that allows trades to identify problematic NTMs that affect their capacity to trade with regional countries. These reports and systems aim at enhancing

[6] The regulation that notifies the products subject to import licenses is No. 0076/MOIC.DIMEX (available at http://www.laotradeportal.net/index.php?r=site/display&id=73). Currently, the Government is revising this legislation to transfer the authorization to grant licenses to the provincial level, mainly for pesticides and chemical substances. Export licenses for logs, trunk, bark, transformed timber, and semi-finished times are granted at the provincial level.

[7] For instance, one private sector representative reported that licenses granted by the ministry of Public Health had to be signed directly by the Minister himself, greatly delaying the procedure to obtain the permit.

awareness of trade restrictions and facilitates bilateral negotiations to remove or improve NTMs. As part of this study the US and EU report were reviewed to identify any specific constraint relating to the use of NTMs in Lao PDR. [8]

39. **Mandatory registration requirements for importers and the extensive use of licenses needed to import products in Lao PDR are identified as key regulatory barriers by the U.S.** According to the 2014 USTR report on foreign trade barriers, all importers must register with the Ministry of Industry and Commerce before importing. In addition, motor vehicles, petroleum and gas, timber products, cements, and steel, are subject to import licensing. American businesses also complained of irregularities and corruption in the customs clearance process, even though the recent expansion of the automated customs declaration processing system (ASYCUDA) to main customs entry point has reduced the clearance time for the imports of goods.

40. **Corruption and informal payments are also reported as major barrier to trade for U.S. businesses seeking to operate in Lao PDR.** According to the report, informal payments to low level officials in order to expedite administrative procedures are common. In a 2012 survey, one quarter of firms reported paying bribes, with the median amount of the bribe rising by a factor of ten since 2009. To date, the EU commission has not received any complaint regarding trade barriers in Lao PDR[9].

[8] Country-specific NTB as reported by the EU and the US, respectively, can be found in the following links: http://madb.europa.eu/madb/barriers_crossTables.htm , https://ustr.gov/about-us/policy-offices/press-office/reports-and-publications/2014-NTE-Report

[9] Another source to identify policies that affect unfairly world trade is the Global Trade Alert (www.globaltradealert.com) platform. This initiative seeks to provide information in real time on state measures that are likely to discriminate against foreign commerce. Lao PDR has only one measure (as opposed to 51 in Thailand and 3 in Cambodia) related to a new ministerial decree in the Law on Investment Promotion of 2009 which allow foreign investors to own land. According to this regulation, foreigners are allowed to purchase a maximum of 800 square meters of land from provincial and national authorities if they have invested at least USD 500,000 in the country.

V. Concluding Remarks and Policy Recommendations

41. **During the last decade, Lao PDR has taken significant efforts to modernize the regulatory framework governing trade and private sector development.** Progressive steps were taken to establish a more rules-based economy and a predictable investment climate. Both international and regional multilateral commitments have served as external anchors to motivate and to cement economic reforms. The country is currently implementing its obligations under the ASEAN Trade in Goods agreement (ATIGA) which entered into force in 2010 and, in 2013 became the 158th member of the WTO.

42. **This note provides a comparative overview of the landscape of regulations affecting imports in Lao PDR.** We compare the current stock of NTMs and its incidence in import flows with that of other countries in the region and also with the situation before WTO accession. The overall objective of the report is to combine this analysis with econometric estimations of the stringency levels of NTMs and qualitative information from fieldwork to identify lingering regulatory hurdles that hamper the ability of the country to reap the gains of a deeper integration with the global economy.

43. **We find that the current NTM framework in Lao PDR is broadly in line with similar countries in the region.** Consistent with international practice, the importance of old fashioned command and control approaches to control import competition via prices or quantity controls, such as minimum prices or import quotas, has been reduced. Consequently, the importance of technical measures, such as SPS and TBT measures, which reflect societal demands for minimum quality levels, have been increased. Overall, accession to the WTO has brought the NTM framework in Lao PDR closer to that of the ASEAN region.

44. **Yet, the current import licensing scheme and the associated array of fees linked to it raises substantially the time and cost to bring products into the market.** Three main problems associated with the procedures to obtain licenses are identified. First, because the system to grant licenses for the majority of products is centralized in the capital, rural traders must spend time and resources to obtain the certificates in Vientiane. Second, a lack of coordination between central authorities, in charge of granting licenses, and border agencies, in charge of enforcing the licenses, leaves room for provincial authorities to exercise their own discretion and delay the process. Third, internal procedures and timelines to grant licenses at the central government are not well communicated to the trading community, leaving room for unnecessary delays and encouraging informal payments to be made to expedite the process. Import licenses fees are applied to 45 broad product categories (4-digits HS codes) which accounted for US$ 211.5 million in 2014. Licenses applied to the importation of oils, cars, and auto-parts generate 92% of the revenue produced by licenses-linked fees. Fees applied to licenses in other products do not generate significant revenue and, instead, increase the cost of doing business.

45. **The impact of taxing imports using fees linked to licenses has an impact beyond increasing trade costs**. Because traders typically pass part of these extra costs the impact of an inefficient import system is reflected in the final prices paid by consumers, resulting in a

negative welfare impact. Moreover, the costs associated with the imposition of non-technical measures in Lao PDR are large in sectors that are potentially important for domestic consumption (vegetable oil, processed food, and vegetables). Consequently, the current system may have negative implications for households, especially the poor. A complex import regimen also encourages importers to resort to informal channels to bring their products into the market, putting the health and safety of consumers at risk.

46. **Revising the import licensing scheme and, more importantly, assessing the necessity and proportionality of fees linked to import licenses, should be a priority for the Government of Lao PDR.** A first step should be changing the manner and frequency that fees are collected to reduce the administrative burden associated with applying for and obtaining import licenses for the trading community. This effort must be followed up by a more comprehensive regulatory impact assessment of licenses in those products that, while important for the daily life of Lao people, do not generate important fiscal revenue to line agencies. Products under this category include bicycles, food preparation items, stoves, baby strollers, and –to a lesser extent, motorcycles. Conducting an analysis on the necessity and proportionally (tests recommended by the WTO to review trade-regulations) of licenses may prove useful to help Lao PDR's consumers access imported products and may contribute to reducing the incidence of informal trade.

47. **The institutional mandate to review, consult, and propose regulatory modifications to streamline NTMs is already in place at the Ministry of Industry and Commerce.** The Department of Imports and Exports (DIMEX) serves as the technical secretariat of the NTM Review Sub-Working Group (NRSWG), which is the interagency body in charge of discussing streamlining proposal made by DIMEX at the highest level of the Government. To ensure that the technical analysis translate if policy actions, it is paramount that the NRSWG is legally established.

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Annex 1: Process and Institutions to Streamlining NTMs[10]

Brazil

Brazil has improved its regulatory practices, including the adoption of regulatory impact assessments (RIAs). The program to strengthen the institutional capacity and the quality of regulation (PRO-REG) is focused in promoting and implementing RIAs in Brazilian regulatory agencies. Several gubernamental agencies take part of this initiative. Although this is an ongoing process, some preliminary lessons are as follows.

First, this experience confirms the importance of the staff availability to implement RIA and cost-benefit analysis (CBA) and the specific skills required to quantify economic, social, and environmental impacts. Staff size and deadlines to develop the studies need to be correlated; thus if deadlines are short, more people must be assigned to the task.

Second, the characteristics of regulatory institutions are critical. A requirement for succeeding in establishing RIAs is to take into consideration the administrative structure of the agency conducting the process in terms of hierarchy, how tasks are distributed and shared, and individual competencies. Above all, it is important to have a clear diagnostic of the institutional infrastructure before implementing the RIA.

A third important factor is financial resources. Improvements in staff, databases, and infrastructure are dependent on the availability of financial resources. The competition for financial resources might compromise the development and implementation of new tools for RIAs, even though these tools could provide gains in optimizing the allocation of public budget.

Another important issue is that this kind of initiative to quantify and qualify the effects of regulations and propose scenarios to policy makers is only possible if cooperation is achieved among the different governmental agencies, research institutes and universities, and, especially, the private sectors represented by their organizations and other representative organisms. A network of experts is a way to pursue a faster advance in this arena.

Indonesia

Streamlining NTMs in Indonesia received a new impetus from the Ministry of Trade in September 2011, which launched a pilot program establishing a review process for NTMs issued by this ministry, currently responsible for 61 percent of all NTMs issued. The main thrust of the program is to remove the NTM review process from the unit that implements NTMs and to equip a new unit with adequate capacity to conduct RIAs. The decree establishes a Non-Tariff Policy (NTP) Team within the Ministry of Trade whose tasks are to (1) coordinate with relevant agencies for input into the formulation and establishment of NTMs; (2) formulate and submit recommendations to the Minister of Trade on NTM policies; (3) monitor and evaluate the implementation of NTM policies; (4) introduce NTM policies to stakeholders; and (5) participate in international trade negotiations in the framework of bilateral, regional, and multilateral cooperation with implications for Indonesia's NTM policies.

[10] The source for the case studies is Cadot el at. (2012).

The ministry also introduced a standard operating procedure (SOP) for reviewing NTMs to conduct objective and independent assessments within a specified time. The team will analyze the eligibility of a proposed NTM; analyze potential impacts of a proposed NTM using appropriate analytical tools; verify the proposed NTM's consistency with other national policies and with the WTO rules or other international agreements; and hold a public consultation through meetings with stakeholders or field surveys. The NTP Team should reach a conclusion regarding the NTM within a maximum of 60 working days.

Mexico

Mexico's COFEMER (Comisión Federal de Mejora Regulatoria) RIA program was consolidated and detailed in reforms to the Administrative Procedures Act in 2000, which were greatly influenced by the Economic Deregulation Unit's five years of experience in the review of regulations and international best practices. The main aspects of the program were:

- The presidential appointment of the COFEMER head and the granting of technical autonomy to the institution.
- The creation of the Federal Council for Regulatory Improvement as a means of ensuring the accountability of COFEMER and giving the business, labor, and academic sectors an important role in the direction of the reform program's work program.
- Requiring each ministry and regulatory agency to name a vice-minister in charge of coordinating in-house regulatory reform efforts, and of submitting two-year work programs to COFEMER for review and public comment.
- Implementing a detailed RIA review process and a mandatory minimum 30-day period of public comment for all regulations. COFEMER can question and require more detailed analysis of RIAs within 10 working days of submission and has 30 working days to issue its opinion on the proposal itself. Ministries and agencies must publicly respond to all COFEMER comments and suggestions.

To enhance transparency and provide guidance on how to conduct RIAs, COFEMER developed an electronic platform that allowed for the centralization of communication between COFEMER and the vice-ministry in charge of regulatory reform in each institution, easy access to technical reference materials, and prompt publication of relevant consultation documents. The online RIA template includes sections on the following:

- The description of the regulatory action, identifying the nature of the problem and risks that each proposal seeks to address.
- Legal analysis, including a clear review of powers, and compatibility with the existing regulatory framework.
- Alternatives considered (both regulatory and non-regulatory), and an explanation of how the proposal is considered to be the least intrusive option to attain the stated goals.
- Implementation strategy and the consideration of resources necessary to ensure proper compliance and supervision.
- Quantifiable and non-quantifiable costs and benefits of the proposal. In addition to requiring explicit consideration of effects on market competition, domestic and international trade, small and medium size enterprises, and consumer access to goods and services, the RIA

process requires that all relevant capital, operation, and transaction costs, and the effects on health, safety, and the environment be itemized.

Annex 2: Countries with NTM information available in WITS

No.	Country	Year	No.	Country	Year	No.	Country	Year	No.	Country	Year
1	Afghanistan	2012	16	European Union	2010	31	Pakistan	2012	46	Liberia	2014
2	Argentina	2012	17	Guinea	2012	32	Peru	2012	47	Mali	2014
3	Burkina Faso	2012	18	Guatemala	2012	33	Russian Federation	2009	48	Mexico	2012
4	Bolivia	2012	19	Hong Kong	2010	34	Rwanda	2011	49	Niger	2014
5	Brazil	2012	20	India	2012	35	Paraguay	2012	50	Nigeria	2013
6	Chile	2012	21	Japan	2009	36	Senegal	2012	51	Togo	2014
7	China	2012	22	Kazakhstan	2012	37	Tunisia	2011			
8	Cote d'Ivoire	2012	23	Lao	2011	38	Tanzania	2011			
9	Colombia	2012	24	Lebanon	2011	39	Turkey	2010			
10	Costa Rica	2012	25	Sri Lanka	2012	40	Uruguay	2012			
11	Cuba	2012	26	Malawi	2011	41	Venezuela	2012			
12	Ecuador	2012	27	Madagascar	2011	42	Benin	2014			
13	Egypt	2011	28	Mauritius	2011	43	Cape Verde	2014			
14	European Union	2012	29	Namibia	2011	44	Gambia	2013			
15	European Union	2011	30	Nepal	2012	45	Ghana	2014			

Note: The information was accessed in September 2014.
Source: TRAINS, WITS.

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Annex 3: Indicators for Measures the Importance of NTMs

This report uses three main indicators to evaluate the pervasiveness of NTMs in import flows as follows.

Frequency Ratio: This measure accounts exclusively for the presence or absence of an NTM, indicating the percentage of imported products to which one or more NTMs are applied. In formal terms, the frequency index of NTMs (F_j) imposed by country j is calculated as:

$$F_j = \left[\frac{\sum D_i M_i}{\sum M_i} \right] \cdot 100$$

Where D_i is a dummy variable taking the value of one if product i is subject to one or more NTMs and M_i (also dummy variable) indicates whether there are imports of product i. Because products have all equal weights, this measure tends to over-emphasize products with very low import value.

Coverage Ratio: This indicator measures the importance of NTMs in terms of the overall import value. The ratio represents the percentage of the imports to country j that is subject to at least one NTM. In formal terms the coverage ratio (C_j) is given by:

$$C_j = \left[\frac{\sum D_i V_i}{\sum V_i} \right] . 100$$

Where D_i is defined as before, and V_i represents the actual value of imports of product i. Because products affected by trade restricting measures are imported in lower quantities and therefore get a lower weight in the calculation, the coverage ratio tends to under-estimate overall trade restrictiveness. This problem is commonly known as an endogeneity bias and it arises by virtue of the fact that imports are dependent on NTMs.

Neither the Frequency nor the Coverage ratio takes into account whether more than one type of NTM are applied to each product.

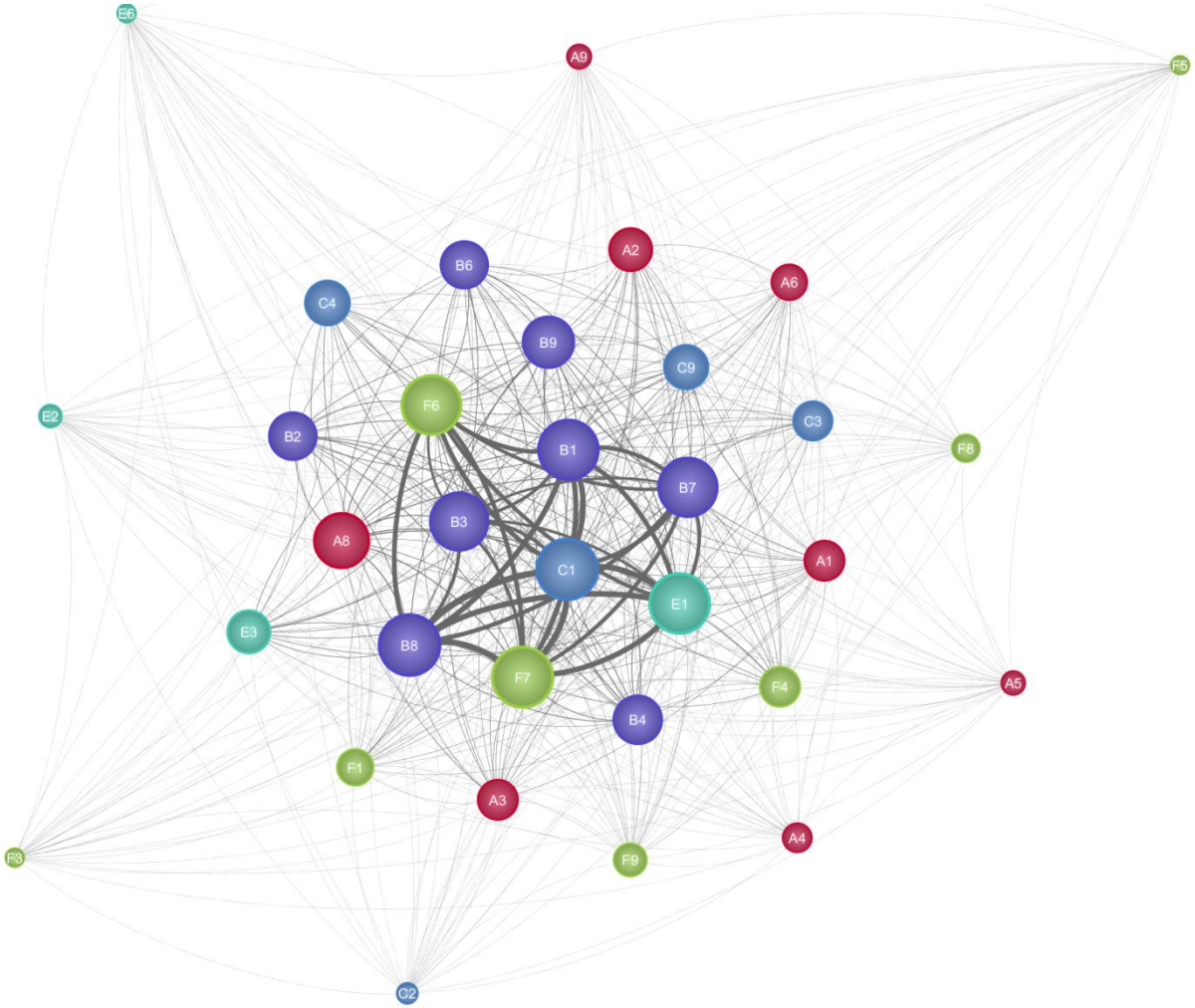
Pervasiveness score: In practice, a large number of products have more than one regulatory measure applied to them. For example, a product could be subject to a sanitary standard as well as a technical measure on quality, and finally to some licensing. Arguably, the greater the number of NTMs applied to the same product, the more regulated the commerce of that product is, especially if measures are from different NTM chapters.[11] The pervasiveness score (P_j) provides the average number of NTMs N_i affecting an imported product M_i. In formal terms the pervasiveness score is given by:

$$P_j = \left[\frac{\sum N_i M_i}{\sum M_i} \right]$$

Where M_i is defined above and N_i represents the number of NTMs that apply to product i.

[11] The rationale is that measures within the same chapter are similar in nature and thus often impose relatively less burden than measures from different chapters.

Annex 4. Global NTM Network Representation



Notes: The figure depicts the global trade-related regulatory framework. Each node represent a type of NTM at the 2-digit. Node sizes are proportional to the coverage ratio (the share of import value affected by each measure). The position of each node in the map reflects the number of links and their relative weight. Links represent the join importance of the pair of measures (coverage ratio).
Source: Authors' computations.

Annex 5: Lao PDR: Coverage Ratios across Economic Sectors

(Percentages)

		2011					2014				
		Technical			Non-Technical		Technical			Non-Technical	
		A: SPS	B: TBT	C: PSI	E: QC	F: PC	A: SPS	B: TBT	C: PSI	E: QC	F: PC
01-05	Live animals	99.7		31.7	67.9	44.0	42.1		41.6		20.8
06-14	Vegetable products	99.9		99.9	99.4	25.7	82.8		81.8		
15	Fats and Oil	100.0			100.0	37.8	89.5		89.5		89.5
16-24	Processed food & beverages	96.5		11.6	95.7	46.7	69.5	0.9	69.5		70.0
25-27	Minerals products				0.4	71.2	0.1	0.1	71.2	71.2	
27	Oil Minerals				69.6	69.6		29.6	29.9	29.9	30.0
28-38	Chemical products	3.7		3.4	11.7	44.9	23.4	19.9	0.2	0.2	19.9
39-40	Rubber and Plastics					2.5		18.1			17.1
41-43	Raw hide and skins										
44-46	Wood					4.9		-	-		40.5
47-49	Paper				99.5			0.6	0.9		
50-63	Textile	-	100.0	-	100.0			1.0			
64-67	Footwear		100.0		100.0						
68-70	Stone and Cement	-		-		22.0		0.1			0.1
71	Pearls	-	100.0	-	93.6			5.3		5.3	
72-83	Base Metals	-	96.0	-	4.0	27.7		0.0	31.0		0.0
84-85	Machinery & Electrical		79.0		100.0	7.8		3.6	0.1		5.5
86-89	Motor Vehicles		100.0		100.0	25.1		52.1	35.7	44.0	52.3
90-92	Optical and Medicals instruments	-	21.0	-	7.8			21.4			21.4
93-96	Miscellaneous goods		12.0		13.0	5.4		1.4			22.0

Note: This table compares coverage ratios of NTMs by type of measure across economic sectors in Lao PDR between 2011 (before WTO accession) and 2014 (after WTO accession). Each cell represents the share of tariff lines (6-digit HS codes) affected by at least one NTM as a share of total tariff lines in each sector.
Source: Author calculations

Annex 6. All Products Covered by Import License Fee

HS4	Sector	Import Value	Share	Cum. Share
2710	Petroleum Oil	60.58	28.7	28.7
8704	Motor vehicles for transport of goods	37.26	17.6	46.3
8703	Motor cards & vehicles for transporting persons	34.93	16.5	62.8
8701	Tractors	23.53	11.1	73.9
8711	Motorcycles	10.53	5.0	78.9
8705	Special purposes motor vehicles	8.48	4.0	82.9
4011	New pneumatic tires	6.61	3.1	86.0
8702	Public-transport type passenger motor vehicles	5.78	2.7	88.8
8408	Ignition engines	5.32	2.5	91.3
8708	Part & acess for motor vehicles	2.87	1.4	92.7
8407	Spark-ignition engines	2.38	1.1	93.8
4012	used tires	1.90	0.9	94.7
8716	Trailers vehicles	1.76	0.8	95.5
8525	Apparatus for radiotelephony	1.64	0.8	96.3
8712	Bicycles	1.23	0.6	96.9
2106	Food preparation	1.11	0.5	97.4
8483	Car transmisions	0.96	0.5	97.8
8707	Bodies for motor vehicles	0.60	0.3	98.1
9504	Table games	0.55	0.3	98.4
3004	Medicaments	0.53	0.3	98.6
8803	Parts pf balloons	0.44	0.2	98.9
8714	Bicycle parts	0.40	0.2	99.0
8409	Car engine parts	0.21	0.1	99.1
2711	Petroleum gases	0.21	0.1	99.2
4016	vulcanized rubber	0.19	0.1	99.3
8706	Car chassises	0.19	0.1	99.4
8709	Trucks	0.18	0.1	99.5
8511	Electric ignition	0.18	0.1	99.6
9001	Optical fibers	0.17	0.1	99.7
2712	Petroleum jelly	0.15	0.1	99.8
8544	Insulated wire	0.13	0.1	99.8
8609	Containers	0.09	0.0	99.9
8518	Microphones	0.08	0.0	99.9
8517	Electrical apparatus for line telephony	0.06	0.0	99.9
8608	Railway fixtures	0.06	0.0	100.0
8606	greight cars	0.06	0.0	100.0
7007	safety glass	0.04	0.0	100.0
7321	stoves	0.04	0.0	100.0
8301	padlocks	0.02	0.0	100.0
8607	locomotive parts	0.01	0.0	100.0
2705	coal gas	0.01	0.0	100.0
8713	Invalid carriages	0.01	0.0	100.0
8710	Tanks and other armored fight vehicles	0.00	0.0	100.0
8715	Baby carriagles (stollers)	0.00	0.0	100.0

Annex 7. Ad-valorem Tariff Equivalent Estimation

We rely on the price-based methods to estimate the price-impact of NTMs on border prices (Cadot and Gourdon 2014). The only type of prices observable in absolute form and at a disaggregated level are trade unit values, obtained by dividing trade values by quantities. There are several problems with using trade unit values to assess the price-raising effect of NTMs. One is that the data is noisy, as customs typically monitor imperfectly import quantities (border taxes are assessed on values, not quantities). The second problem is that trade unit values do not include intermediation margins (from CIF border price to wholesale and retail prices). This is problematic in the presence of quantitative restrictions, if licenses are given to domestic distributors; in that case, trade unit values will not reflect the shadow value of the licenses. This potential problem should however be kept in mind when interpreting the price effect of NTMs.

Formally, let *o, d* and *p* index respectively the origin country, the destination country and a product identified at the six-digit level of the Harmonized system (over 5'000 products). Let δ_o and δ_d designate vectors of "fixed effects" identifying respectively each origin country and each destination country. These fixed effects adjust the model's constant for each country, neutralizing the influence of all idiosyncratic factors that could influence the level of prices (for the destination country, they control for the cost of living; for the origin country, they control for aggregate productivity). Let v_{odp} be the unit value of product *p* imported from country *o* to country *d*, and $\mathbf{x}_{od}$ a vector of bilateral determinants of trade including distance, common language, common border, and so on. Let A designate type-A measures (SPS) in the MAST nomenclature, "B" type-B measures (TBT), and "C" type-C measures (PSI). We define a dummy variable to identify if a country employs a particular type of NTM as follows:

$$n_{dp}^{A} = \begin{cases} 1 & \text{if country } d \text{ applies a type-A NTM to product } p \\ 0 & \text{otherwise} \end{cases} \quad (3)$$

The estimation equation is

$$\ln v_{odp} = \delta_o + \delta_d + \beta_1^A n_{dp}^A + \beta_1^B n_{dp}^B + \beta_1^{other} n_{dp}^{other} + \beta_2 \ln\left(1 + t_{odp}\right) + \mathbf{x}_{od}\boldsymbol{\gamma} + u_{odp} \quad (4)$$

Note the similarity of (4) with a standard gravity equation of trade. A variant of this equation makes it possible to differentiate the effect of NTMs depending on characteristics of the importing country by interacting country characteristics such as the level of income with the presence of NTMs:

$$\ln v_{odp} = \delta_o + \delta_d + \sum_{k=A,B,\text{other}} \beta_1^k n_{dp}^k + \sum_{k=A,B,\text{other}} \beta_1^k \left(n_{dp}^k \times z_d\right) + \beta_2 \ln\left(1 + t_{odp}\right) + \mathbf{x}_{od}\boldsymbol{\gamma} + u_{odp} \quad (5)$$

where z_i denotes those characteristics. Yet another version of the variant consists of interacting

NTMs not with country characteristics as in (5), but with country dummies. The idea is the same—namely, to account for systematic variations between countries in the application of all NTMs on all products, depending on levels of income, governance, and, when using dummies, on any unobservable characteristics of a given country.

Given that there are over 4'575 products at the HS six-digit level on which at least one country in our sample has an NTM (in all, there are over 5'000 products at HS6); three different types of NTMs and three coefficients by type of NTM (the importer-specific dummy interacted with the three type of NTMs), the estimation in (5) would involve estimating a maximum of $35 \times 3 \times 4'575 = 62375$ coefficients. This is likely to be intractable if we try to estimate these coefficients in a single regression. We run this regression instead product by product and only show import-weighted average AVEs for each type of NTM, by country and by economic sector.

Note that the degree of pass-through of compliance costs is not mechanical and depends on market structure. In a standard monopolistic-competition model, "mill pricing", where producers charge the same FOB price to all destinations, is optimal. There is then full pass-through. However, new theoretical and empirical developments show that the degree of pass-through depends on market structure, firm size and other determinants (see e.g. Auer and Schoenle 2013 and references therein).

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