

MEASURING THE IMPACT OF TRADE FACILITATION REFORM:

WORLD BANK GROUP METHODOLOGIES AND INDICATORS



WORLD BANK GROUP

Trade & Competitiveness

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Trade and Competitiveness Global Practice

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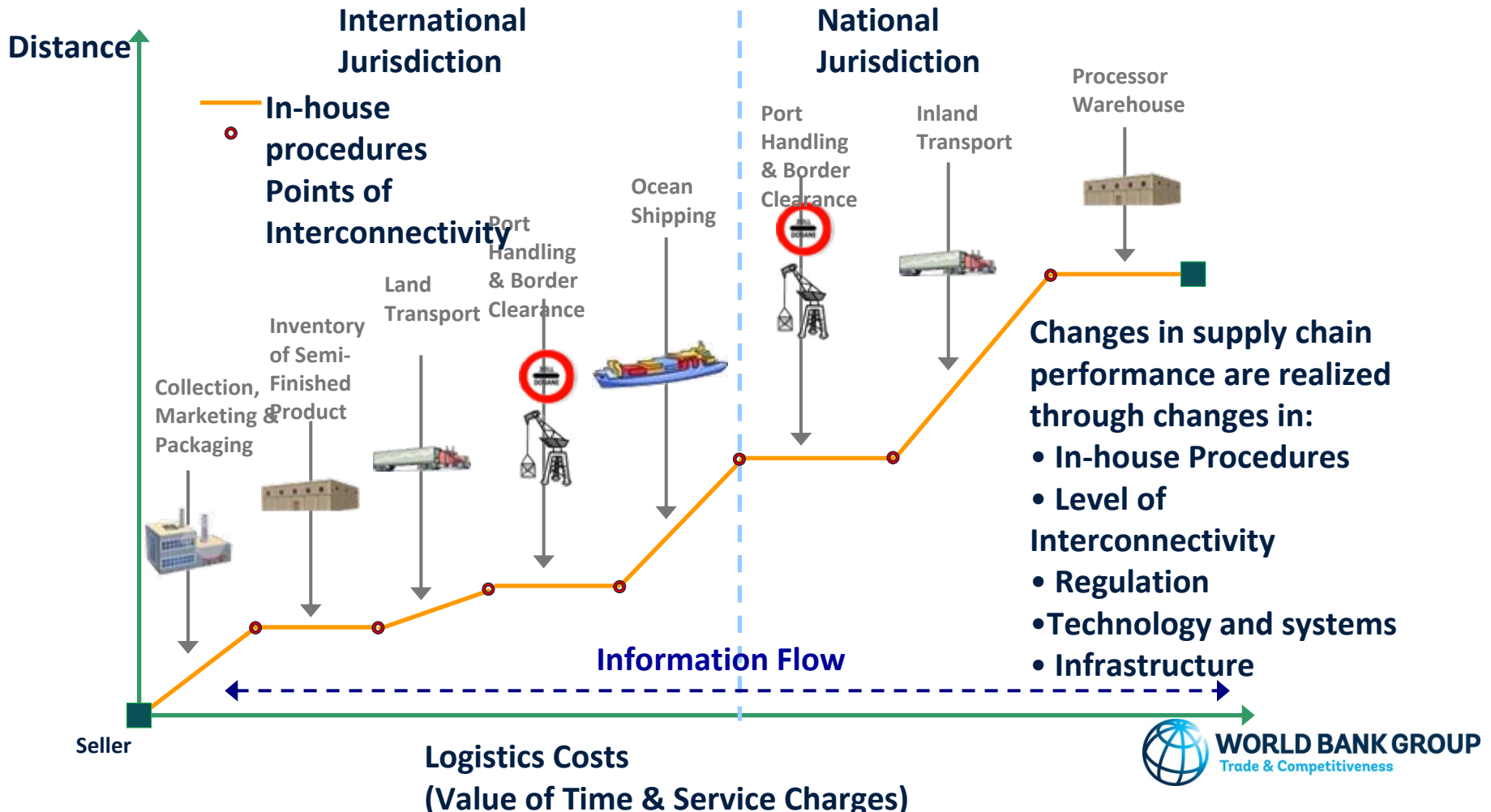
Measuring the impact of trade facilitation reforms

Examples of measuring impact from implementing SW interventions

Trade Facilitation – a couple of definitions

“simplification, standardization, and harmonization of procedures & processes and associated information flows to move goods through the supply chain in a transparent and predictable manner”

“identifying and addressing bottlenecks that are imposed by weaknesses in trade related logistics and regulatory regimes and that prevent the timely, cost effective movement of goods.”



Why is it important for the global economy: A new economic landscape (1)

Latest trends in the global economy

- A rising portion of global production is destined for foreign markets
- Several border crossings during the course of production of a single product
- Rapid expansion of trade in services
- 70% of global trade is associated with global value chains (GVCs)
- South-South trade is on the rise
- Almost 1/3 of all economic activity is associated with the 200 largest multinational corporations (MNCs)

Implications for FDI, trade and competitiveness

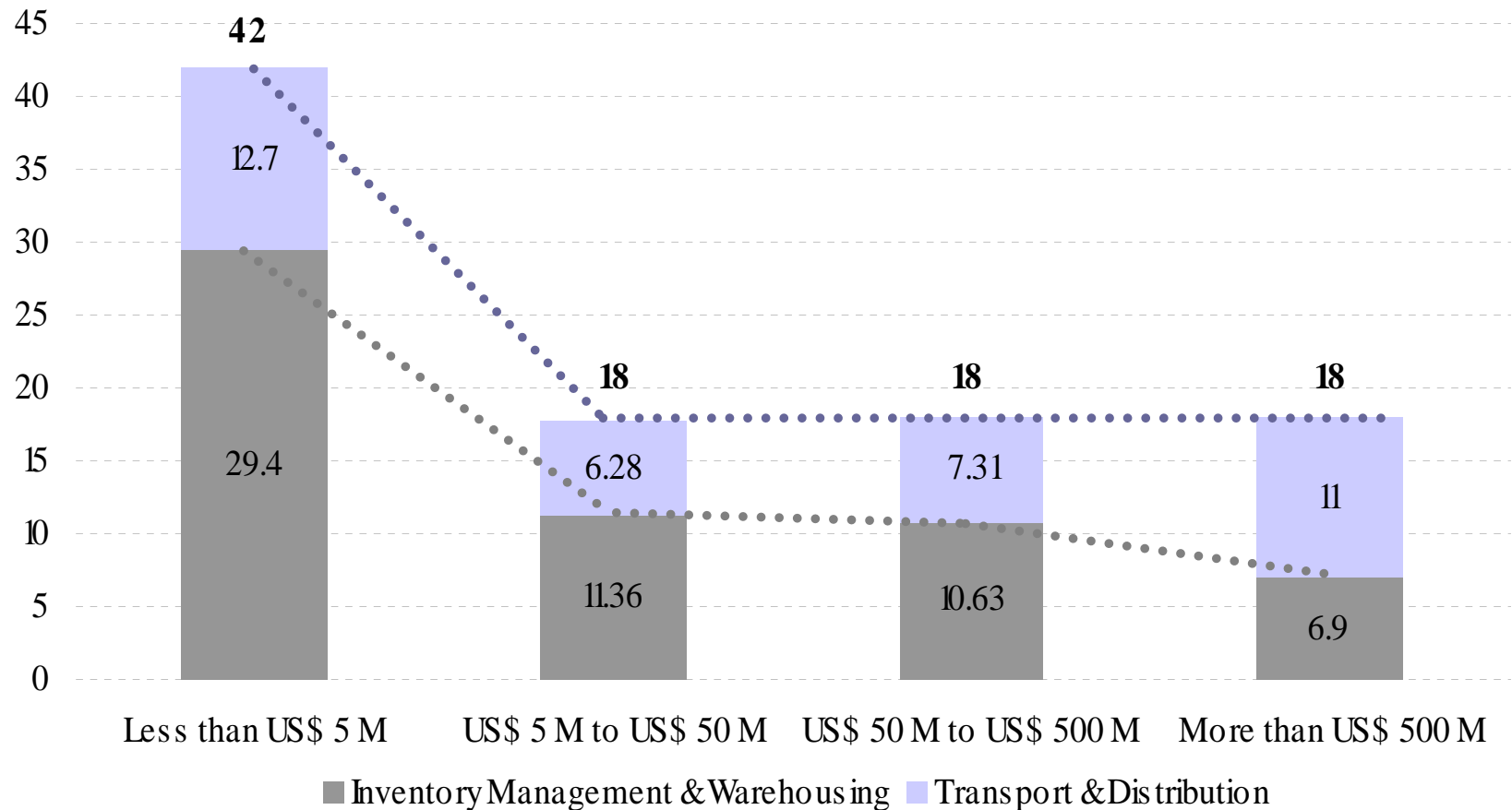
- Trade and FDI become even more inter-related and complementary
- Trade costs matter more
- More intra-firm trade (both intermediate and final products) and global value chain (long-term linkages between firms across countries)
- Technology and innovation are the key variables through which trade and FDI translate into growth.

Why is it important for the global economy: Big gains from Trade Facilitation (2)

- if all countries reduce supply chain barriers halfway to global best practice (i.e. Singapore), global GDP could increase by 4.7% or US\$ 2.6 trillion and world trade by 14.5% or US\$ 1.6 trillion, far outweighing the benefits from the elimination of all import tariffs (WEF).
- each additional day that a product is delayed prior to being shipped reduces trade by more than 1 percent.
- improving the quality of physical infrastructure increase its exports by more than 10 percent
- 1 percent increase in aid-for-trade facilitation potentially result in US\$290 million of additional exports.
- Adopting electronic documentation for the air cargo industry could yield US\$ 12 billion in annual savings and prevent 70-80% of paperwork-related delays.

Why is it important for the firms: Logistics costs place a disproportionate burden on smaller firms

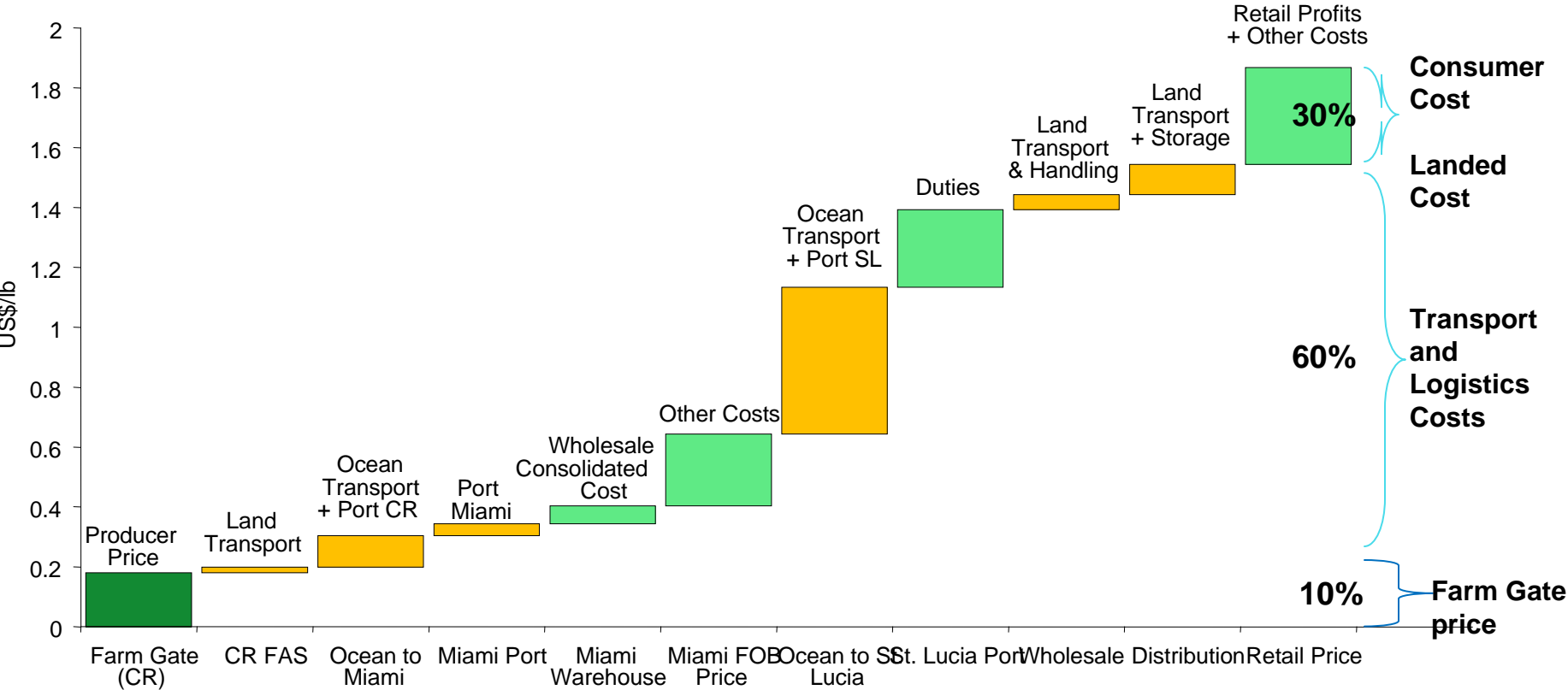
Average logistics cost as a % of sales



Source: Centro Logístico de Latinoamérica, Bogotá, Colombia. Benchmarking 2007: Estado de la Logística en América Latina Anexo, María Rey Logistic Summit 2008

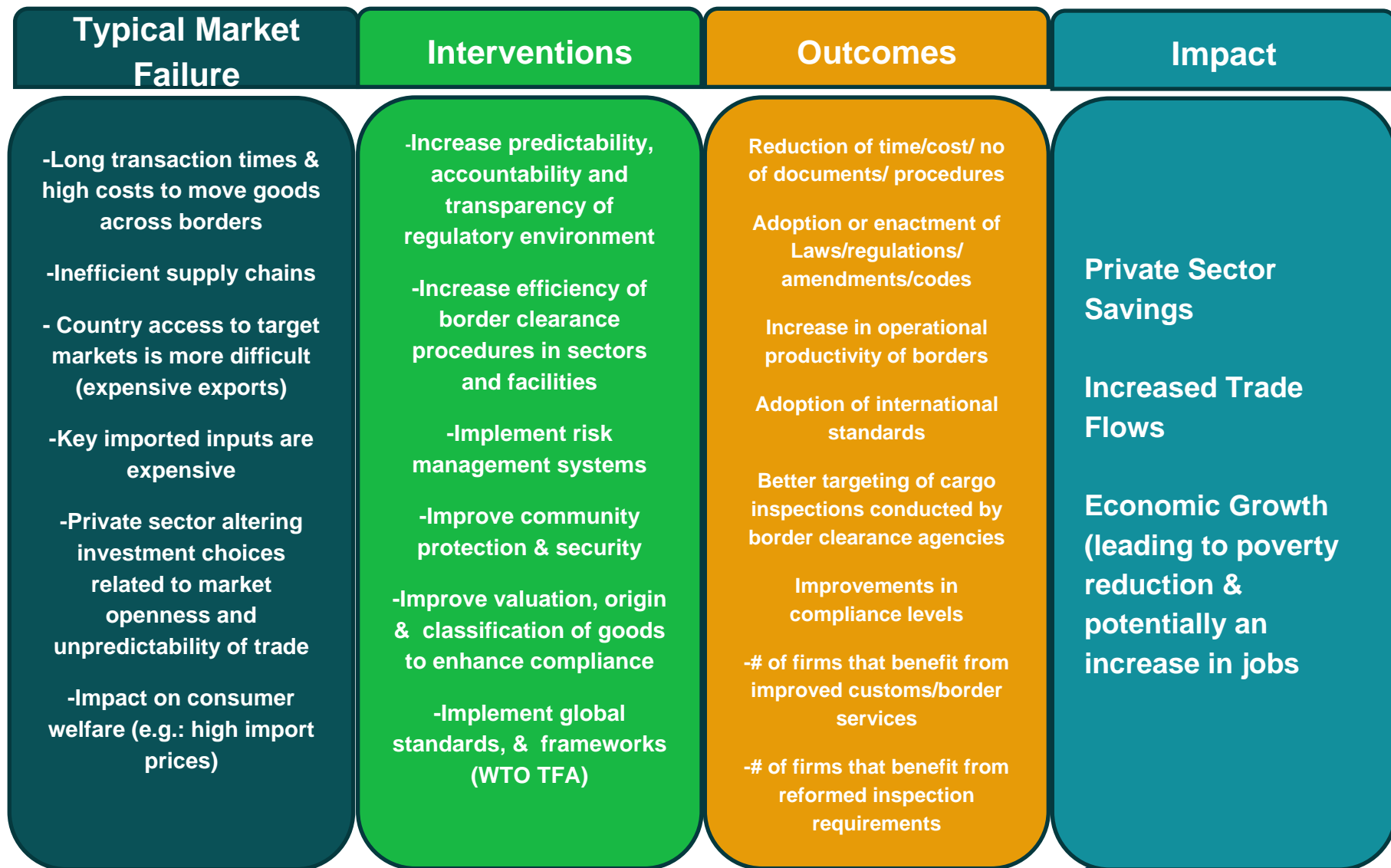
Why is it important for the consumers: Logistics costs increase prices for the consumers

60% of the cost related to the importation of pineapples CR to Saint Lucia is due to documentation preparation, border clearance, transportation and logistics.



Source: Gain, 2013, Adapted from : Logistics, Transport and Food Prices in LAC (2009) and OECS Backward Linkages Study (2008)

WBG theory of change for Trade Facilitation Interventions



Type of interventions for WBG trade facilitation projects

Implementation of WTO TF Agreement & National level interventions

- **Simplifying & harmonizing** trade procedures and documentation at borders and ports
- Conducting **legal and regulatory** reforms
- Integrating **risk management** systems into border inspections and clearance
- Implementing **electronic processing/automation** and Single Window Systems

Regional Integration

- **Improving border clearance, trade logistics systems and services** at the regional level
- **Mutual Recognition of agreed Frameworks** including the implementation and recognition of international standards, accreditation and certification at borders.

Agribusiness

- Enhancing **food security** by Improving trade logistics in **agribusiness supply chains**
- **Streamlining NTBs** and thus offering market access for key agribusiness products in client countries.
- Supply chain analysis for key export commodities

Investment in Logistics Services

- Fostering **investments in key export sector logistics and distribution services**
- Providing **TA to improve logistics and services** along the supply chain
- Connect to WBG Transport & infrastructure projects



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Using **Indicators** to track reform progress

A couple of **principles**.....

1. Clustering indicators and measurement

1. Keep it simple:

Estimating:

What Difference Does a Day Make ?

Relevant Trade Logistics Global Outcome Indicators (1)

Indicator	Sub-indicator	Source	Definition	Frequency
Doing Business Trading across Borders	Time to import a 20" container (days) Time to export a 20" container (days) Documents preparation (days) or (USD) Customs Clearance and Technical Control (days) or (USD) Ports and Terminal Handling (days) or (USD) Inland Transportation and Handling (days) or (USD)	World Bank Group	Doing Business measures the time and cost (excluding tariffs) associated with exporting and importing a standardized cargo of goods by sea transport. The time and cost necessary to complete 4 predefined stages (document preparation; customs clearance and inspections; inland transport and handling; and port and terminal handling) for exporting and importing the goods are recorded; however, the time and cost for sea transport are not included.	Every year
The Logistical Performance Index (LPI)	<p>International LPI Efficiency of customs and border management clearance ("Customs"). Quality of trade and transport infrastructure (Infrastructure"). Ease of arranging competitively priced shipments (Ease of arranging shipments"). Competence and quality of logistics services—trucking, forwarding, and customs brokerage ("Quality of logistics services"). Ability to track and trace consignments ("Tracking and tracing"). Frequency with which shipments reach consignees within scheduled or expected delivery times ("Timeliness").</p> <p>Domestic LPI Measures overall logistics performance of: Infrastructure Services Border procedures and time Supply chain reliability.</p>	World Bank Group	<p>LPI 2014 ranks 160 countries on six dimensions of trade -- including customs performance, infrastructure quality, and timeliness of shipments -- that have increasingly been recognized as important to development. The data used in the ranking comes from a survey of logistics professionals who are asked questions about the foreign countries in which they operate.</p> <p>The Domestic LPI looks in detail at the logistics environments in 116 countries. For this measure, surveyed logistics professionals assess the logistics environments in their own countries. This domestic evaluation contains more detailed information on countries' logistics environments, core logistics processes and institutions, and performance time and cost. This approach looks at the logistics constraints within countries, not just at the gateways, such as ports or borders.</p>	Every 2 years

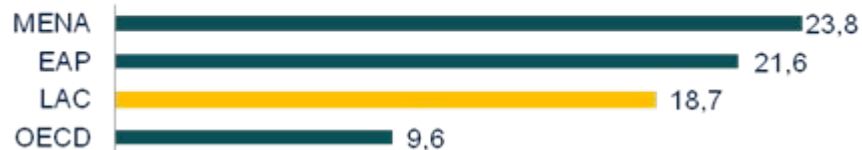
Relevant Trade Logistics Global Outcome Indicators (2)

Indicator	Sub-indicator	Source	Definition	Frequency
Enterprise Surveys	Trade, Corruption Days to obtain an import license % of firms expected to give gifts to get an import license Days to clear exports through customs Days to clear imports through customs Percentage of Firms that are identifying customs and trade regulations as a major constraint Days of inventory of main input Products exported directly lost due to breakage or spoilage (%)	World Bank Group	An Enterprise Survey is a firm-level survey of a representative sample of an economy's private sector. The surveys cover a broad range of business environment topics including access to finance, corruption, infrastructure, crime, competition, and performance measures.	Every 3-4 years
Time Release Studies		World Customs Organization	The WCO Time Release Study (TRS) is a unique tool and method for measuring the actual performance of Customs activities as they directly relate to trade facilitation at the border. The TRS thereby measures relevant aspects of the effectiveness of operational procedures that are carried out by Customs and other regulatory actors in the standard processing of imports, exports and in transit movements. It seeks to accurately measure these elements of trade flows so that related decisions to improve such performance can be well conceived and thereby carried out.	Unique study, performed at the request of the client
Irregular payments in exports and imports		World Economic Forum, Executive Opinion Survey	In your country, how common is it for firms to make undocumented extra payments or bribes connected with imports and exports? (1=common, 7=never occurs) 2012–2013 weighted average	Every year
Quality of port infrastructure		World Economic Forum, Executive Opinion Survey	How would you assess port facilities in your country? (1 = extremely underdeveloped, 7 = well-developed and efficient by international standards). For landlocked countries, this measures the ease of access to port	Every year
Quality of roads		World Economic Forum, Executive Opinion Survey	How would you assess roads in your country? (1 = extremely underdeveloped, 7 = extensive and efficient by international standards) 2012–2013 weighted average	Every year

Case study: Latin America countries benchmarking on DB sub-indicators

Latin America is the second performing in time to trade in the world, after OECD economies with high dispersion across countries ...

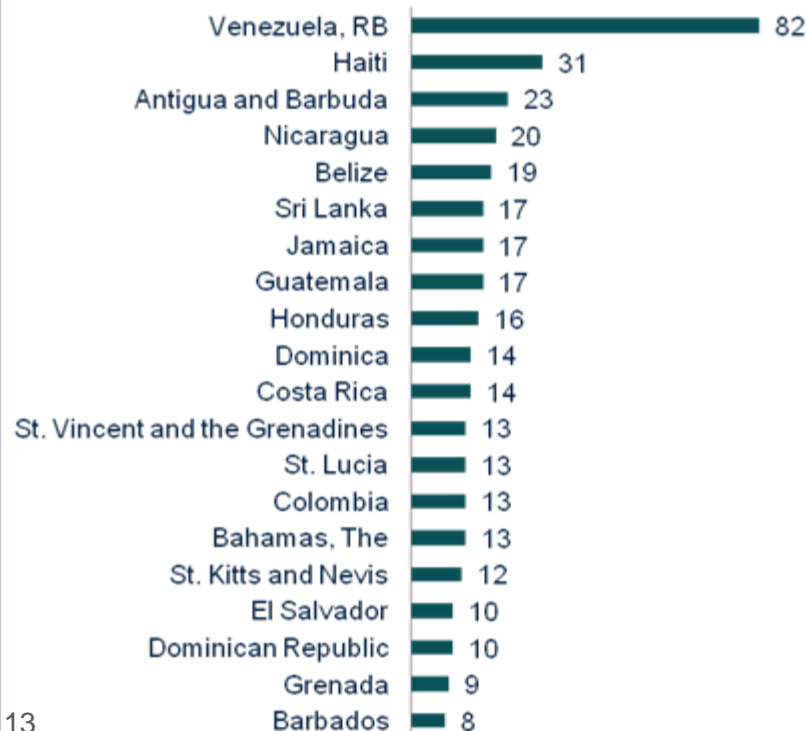
Time to import a 20" container (days)



Time to export a 20" container (days)



Time to import a 20" container (days)



Time to export a 20" container (days)





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WBG methodologies, research and indicators are based on academic publications estimating the impact of trade facilitation

Effect of Trade Logistics reforms on trade, income, productivity, private sector goods and prices

Linking countries to global supply chains and improving export performance

1% reduction in time to export increases exports by 0.4 percent. One additional day in transit time is equivalent to a 70km increase in distance between trading partners. (Djankov et al (2007))

1% reduction in export time will increase bilateral trade by a range between 0.18% (OECD countries) and 0.6% (Sub-Saharan Africa). (Subramanian, Anderson and Lee, 2012)

1% reduction in trade costs results in Increase in GDP of 0.27% for the Middle East and North Africa, 0.25% for non-OECD Asia Pacific, and 0.18% for Sub-Saharan Africa (Walkenhorst and Yasui, 2003)

Enhancing productivity of firms

Using China ES data, reducing customs clearance time by 1 day will generate:

• **2.1% increase in total factor productivity for Textile/Apparel Industry**

• **7.4% increase in total factor productivity for Consumer Goods**

(Subramanian, Anderson and Lee (2005))

Trade logistics is a source of excess production cost of medium firms in Africa (Ethiopia, Tanzania and Zambia) in apparel, wood products metal products and agri-business (Dinh, Palmade, Chandra, Cossar, 2012)

Generating savings for the private sector

Reducing time to trade translates into cost savings for private firms through lower user fees and charges, reduced cargo loss and damage, decreased capital carrying charge

Real effect on final price for imported goods

One day saved in shipping time is equivalent to a 0.8% reduction in ad-valorem tax for manufactured goods. David Hummels (2001)

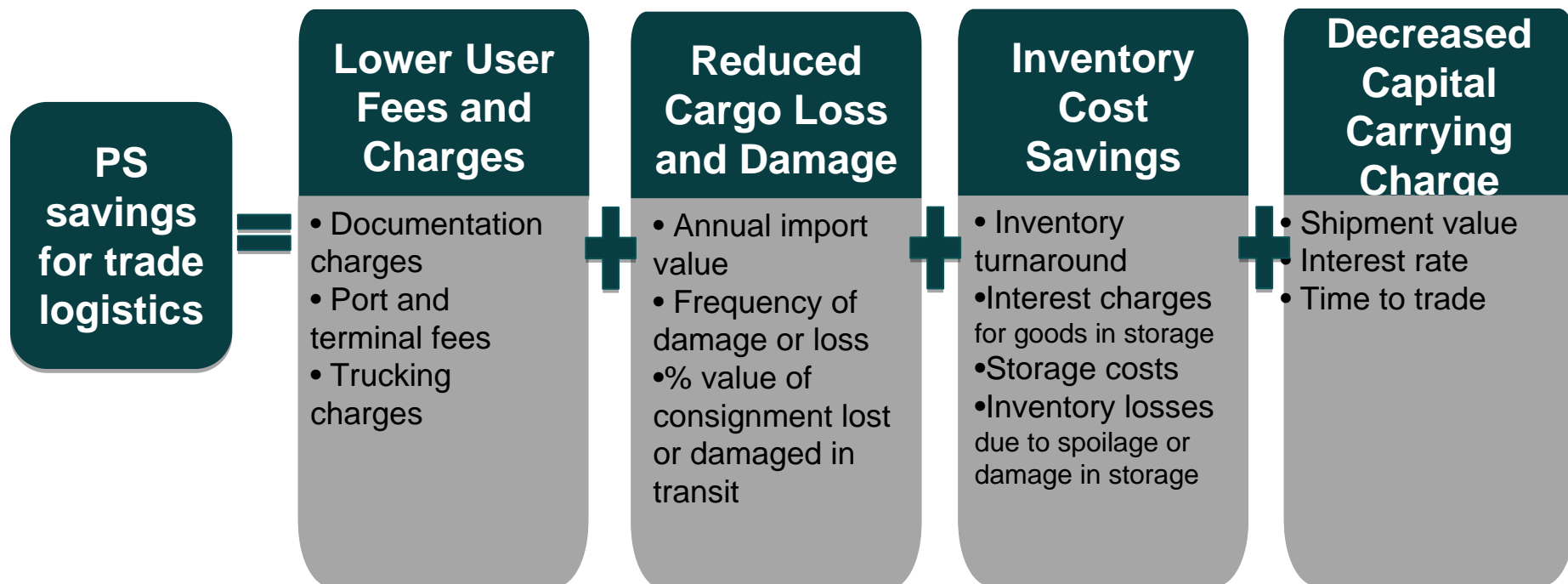
One extra day in transit for vegetables and fruit is equivalent to lowering price of produce by 0.9% (USAID (2007))

Methodologies for measuring impact of trade facilitation reforms

- **Quantitative analysis of improvements to cross-border trading environments is difficult:** Cross-border trade activities include the movements of thousands of **different products**, involving **many different firms that vary in size, function, and organization of their supply chains**.
- The difficulty in producing any figure on economic impact is largely due to the **problem of adding up over the benefits of the reforms on many different disparate activities**
- In the following slides we propose **two different methodologies** to measure private sector savings from trade facilitation reforms:
 - **Bottom-up approach** – identifying and measuring many different sources of cost and add them up
 - **Top-down approach** – estimate the firms willingness to pay for border improvements (sufficient to understand the economic value of interventions)

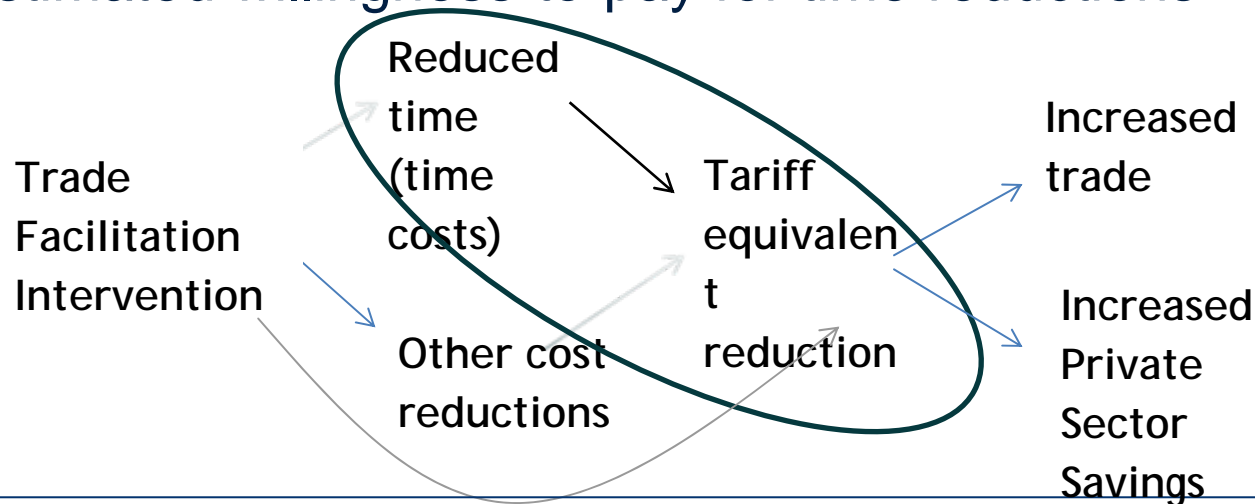
Bottom-up Private Sector Savings Methodology:

Identifying sources of cost and adding them up



Top-down Private Sector Savings Methodology:

Estimated willingness-to-pay for time reductions



General Intuition for valuing trade facilitation activities: Every day reduces the value of traded goods by roughly 1% (0.6 percent if the conservative estimate, which we use).

The model suggests that trades could pay between .6 and 2.1 percent ad valorem on average for each day of time

This methodology is currently being tested through field impact evaluations in different countries

The methodology can be expressed through this formula:

$$\text{Annual Savings} = \text{Change in trading time} \times \text{Intervention share} \times \text{Tariff equivalent (Value of reductions in time to trade)} \times \text{Value of Trade in the baseline year}$$



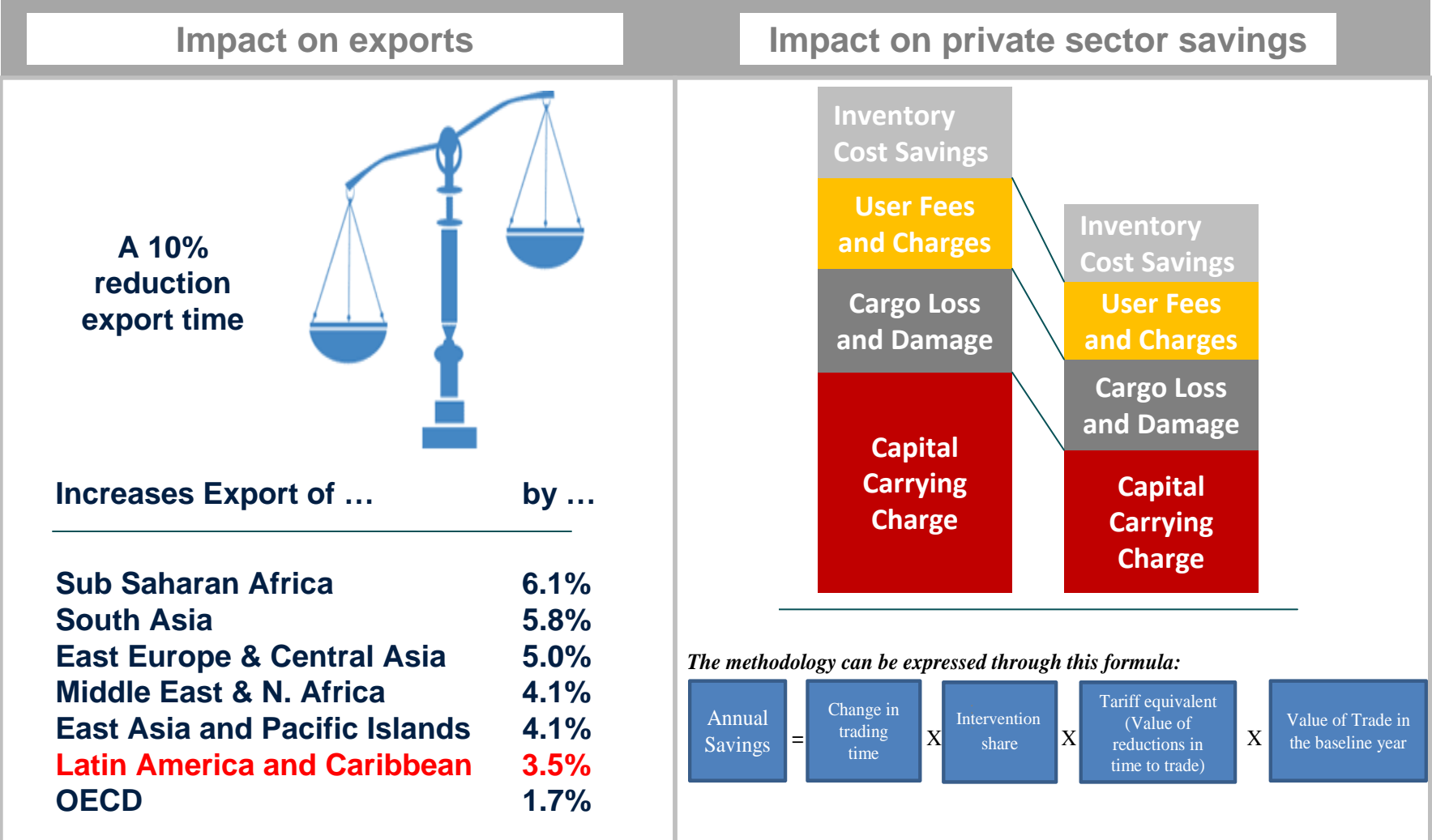
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In conclusion, the emphasis is on impact evaluation



Trade Facilitation Support Program



Opportunities

- Coordinated Border management
- National Trade Facilitation Committees
- SW as part of the transparency and predictability measures is key
- New impact model !!

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Program Objective

Assist developing countries to reform and align their trade facilitation laws, procedures, processes & systems to enable implementation of the WTO TFA

Features

- Implementation focused “plus plus”
- Rapid response capability
- Deep engagement with the private sector
- Strong monitoring, evaluation & results framework
- Complementary & sequenced TA activity
- IFC-WB presence in most countries, project components included at national and regional levels
- Global expertise



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