COMPETE CARIBBEAN

Logistics as a Driver for Competitiveness in Latin America and the Caribbean

Jose Luis Guasch

Professor of Economics, University of California, San Diego

THE AMERICAS COMPETITIVE FORUM

Santo Domingo, Dominican Republic

October 5-7, 2011

IDB UKaid from the Department for International Development Canada

A Story Line

- I am an SME and am considering exporting
- What do I do:
  - Identification of client?
  - Evaluation of costs to exports?
  - Permits, Certificates quality and/or phytosanitary?
  - Packaging?
  - Inventories?
  - Consolidation? Scale to small?
  - Bill of landing?
  - Cold chain?
  - Trucking service?
  - Shipping service?
  - Insurance?
  - Custom agent?
  - Certificate of origin?
  - Trade finance?
- Multimodal operator?
- As a policy maker what and how should I focus a support reform program?

Logistics Framework

- Critical for enhancing competitiveness/productivity
- Critical for trade
- Critical for mainstreaming SMEs into the export and value chain
- Critical for poverty alleviation

- Need a comprehensive and integrated approach: not just a downstream focus (port or customs related) or a just hard infrastructure focus

Components of a Competitiveness Framework

- Trade Policy and Access to Markets
  - Tariff Regime
  - Free Trade Treaties
- Exportable/Production Supply
  - Quality and Standard
  - Human Capital
  - Innovation and Knowledge Transfer
  - Clusters and value chains
- Logistic and Trade Facilitation Costs
  - Hardware: Infrastructure
  - Software: Associated Services and Trade Procedures
- Social/Productive Inclusion: Knowledge Transfer
  - Articulation
  - CITEs
- Financial Instruments
- Institutions: Export Facilitation, Quality Agency, Innovation Agency
- Overall Investment Climate

- Objetive: Productivity increases, growth, trade and mainstreaming of SMEs into the value and export chain

Logistics performance is difficult to measure (and to interpret as well)

Macro approach *Logistics costs as a % of GDP*	Micro approach*** *Logistics performance based on firms´ surveys. Costs as a % of product value*	Perception *Recent Logistics Perception Index*
• Based on the national accounts • Logistics costs as a % of GDP • Demands some assumptions • Quick and easy: Provides overall results • Example: Guasch and Kogan (2002) • Alternative approaches (Michigan State Univ.)	▸ Based on firms surveys ▸ Logistics costs as a % of sales value ▸ Other logistics performance indicators ▸ Needs large samples for robustness ▸ Example: Peru (Guasch 1997), Argentina (1999), LALC Observatory ▸ Corridor approach (USAid´s Fast Path)	▸ New exercise: World Bank, GFP and Turku ▸ Perception-subjective-from pooled information provided by freight forwarders ▸ Allows for a unique indicator, which can be correlated to others (WEF, WB, etc.) ▸ Other hard data also collected

"The logistics of international shipments is a complex combination of services and procedures involving many public and private operations that does not lend itself easily to measurement".

"There is no statistical indicator that proxies the performance of the entire supply chain, or even a major part of it".

Source: Measuring Global Connections - Draft

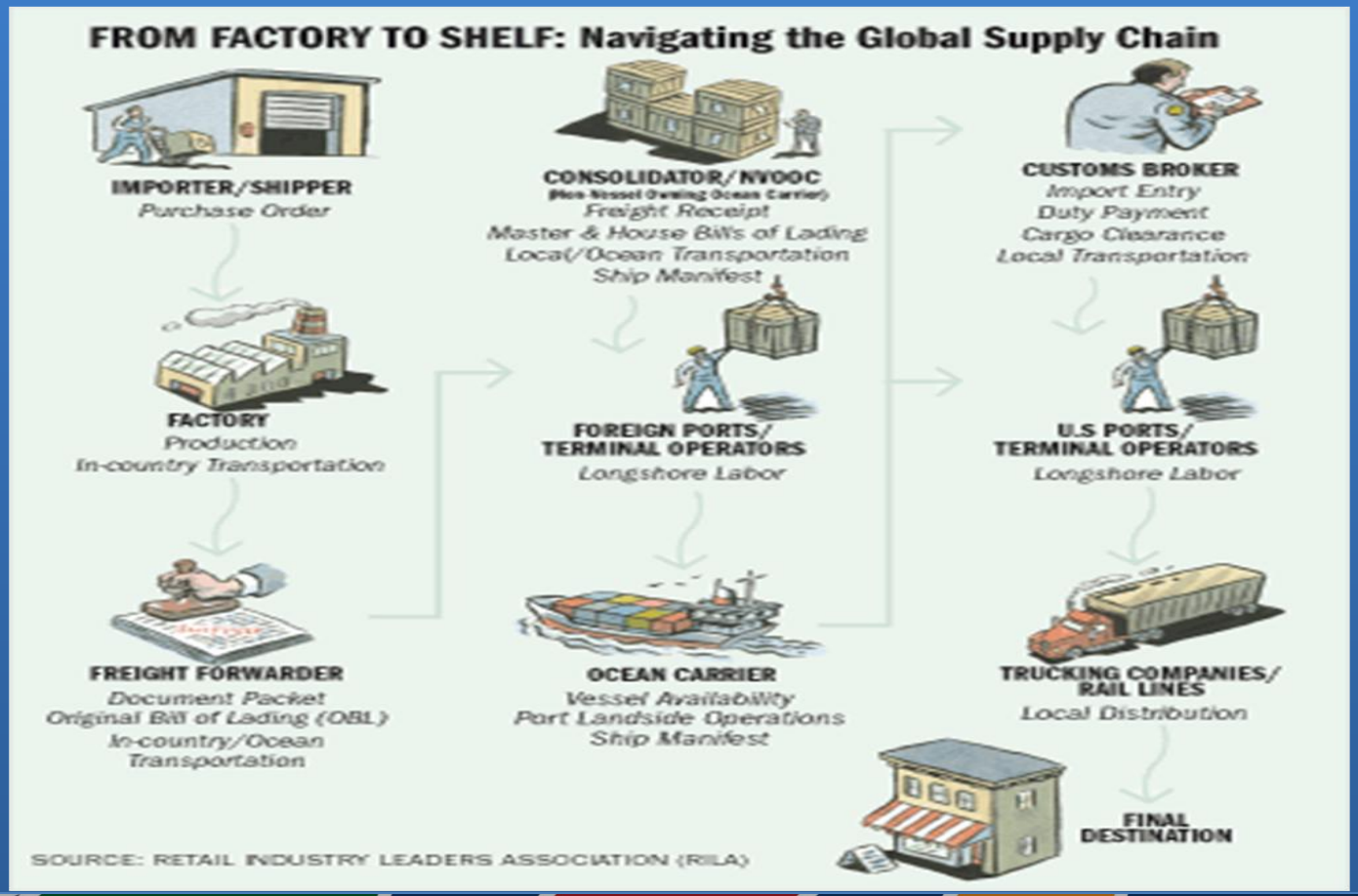
LPI Ranking presents performance scores of all countries on the LPI index, as well as on the seven key dimensions, in a sortable table format

International LPI ranking

By default, the table is sorted by the Logistics Performance Index (LPI). Click on the ▼ icons to sort by other categories in ascending order. Please click on the country name for the detailed information on the Country Scorecard. More information ...

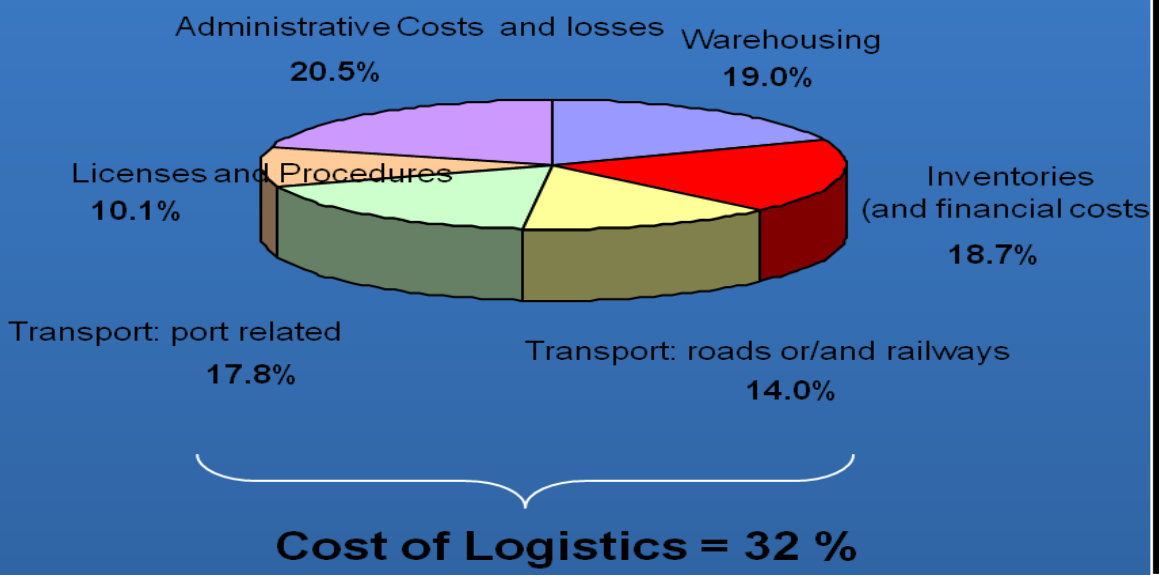
Int. LPI Rank	Country	LPI	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Domestic logistics costs	Timeliness
1	Singapore	4.19	3.90	4.27	4.04	4.21	4.25	2.70	4.53
2	Netherlands	4.18	3.99	4.29	4.05	4.25	4.14	2.65	4.38
3	Germany	4.10	3.88	4.19	3.91	4.21	4.12	2.34	4.33
4	Sweden	4.08	3.85	4.11	3.90	4.06	4.15	2.44	4.43
5	Austria	4.06	3.83	4.06	3.97	4.13	3.97	2.24	4.44
6	Japan	4.02	3.79	4.11	3.77	4.12	4.08	2.02	4.34
7	Switzerland	4.02	3.85	4.13	3.67	4.00	4.04	2.26	4.48
8	Hong Kong, China	4.00	3.84	4.06	3.78	3.99	4.06	2.66	4.33
9	United Kingdom	3.99	3.74	4.05	3.85	4.02	4.10	2.21	4.25
10	Canada	3.92	3.82	3.95	3.78	3.85	3.98	2.84	4.19
11	Ireland	3.91	3.82	3.72	3.76	3.93	3.96	2.65	4.32
12	Belgium	3.89	3.61	4.00	3.65	3.95	3.96	2.62	4.25
13	Denmark	3.86	3.97	3.82	3.67	3.83	3.76	2.52	4.11
14	United States	3.84	3.52	4.07	3.58	3.85	4.01	2.20	4.11
15	Finland	3.82	3.68	3.81	3.30	3.85	4.17	2.22	4.18
16	Norway	3.81	3.76	3.82	3.62	3.78	3.67	2.08	4.24
17	Australia	3.79	3.58	3.65	3.72	3.76	3.97	2.80	4.10
18	France	3.76	3.51	3.82	3.63	3.76	3.87	2.34	4.02

What's Trade Facilitation and Logistics?



Firm-Level Surveys – Component Costs of Logistics (Micro Approach)

AVERAGE STRUCTURE OF LOGISTIC COSTS [1/]



Cost of Logistics = 32 %

Source: Survey to users of freight services. 2000 - Apoyo Consultoria

DESCRIPTION

- **Licensing and Procedures**
  - Customs, phytosanitary measures, if applicable, among others.
- **Administrative Costs**
  - Logistics overhead
  - Insurance
  - Security
  - Spoilage and losses
- **Warehousing/ Storage**
  - Storage costs
  - Costs to deterioration of goods and losses due to storage.
- **Inventories (and financial costs)**
  - Costs of maintaining inventory
  - Cost of goods in transit
- **Transport Costs**
  - Frieght Charges
  - Costs to deterioration of goods and losses during transport

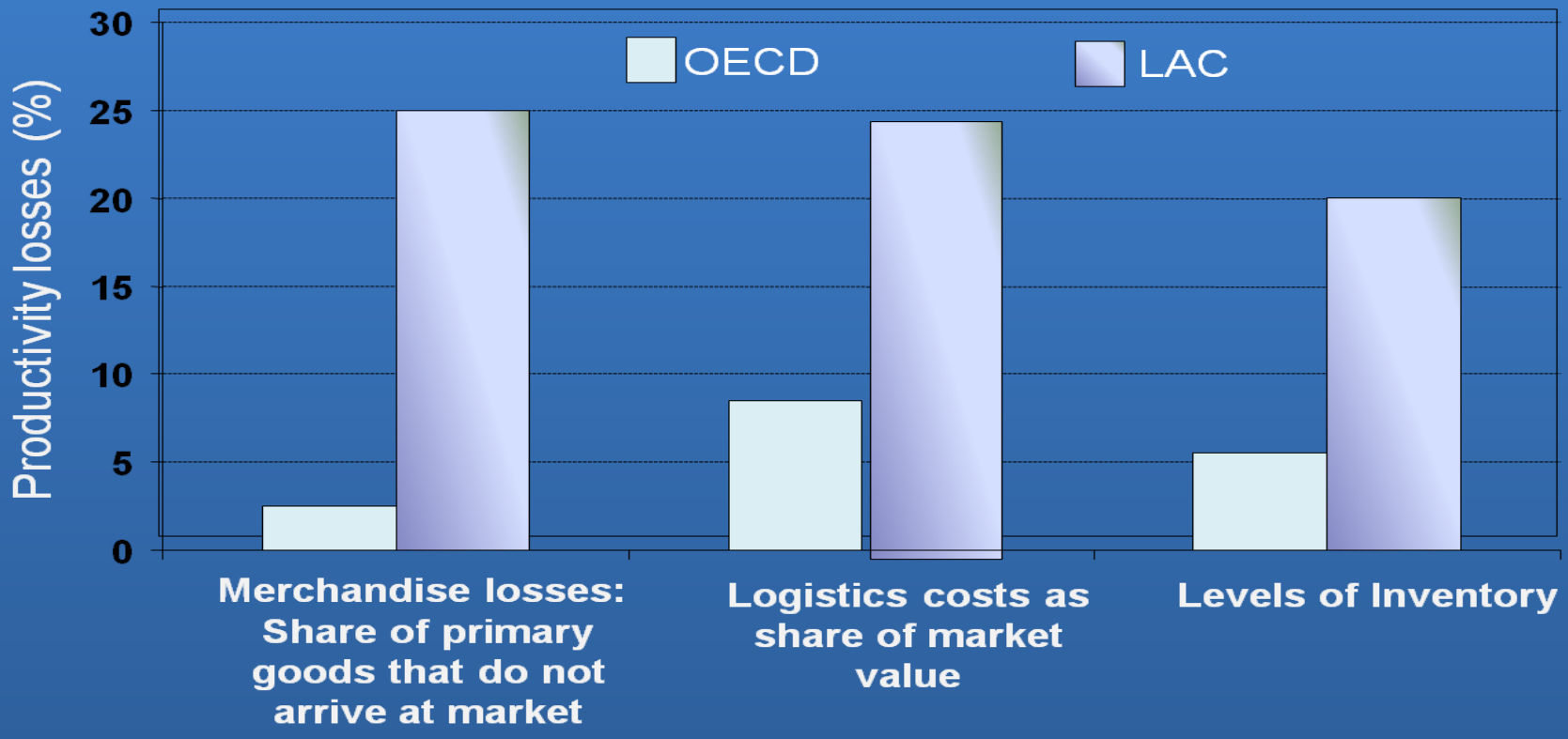
Consequences of High Logistic Costs

- Reduced Competitiveness/Productivity overall
  - Higher prices
  - High levels of inventories
  - High percentage of goods not reaching markets
  - High rate of spoiled goods
  - Lower connectivity
  - Stunting the development of new products and new exports
  - Lower trade
  - Increases in poverty

How do trade /logistic costs matter?

- Distance still matters significantly
- Time costs matter
  - Each day saved worth 0.8 ad valorem tariff .
  - A day is equal to 1 percent of trade or 70 km
- Shipping costs matter
  - Doubling transport costs ($/T) is associated with a 33% decline in agricultural trade overall
  - eliminating market power in shipping would increase trade by 5-15 percent

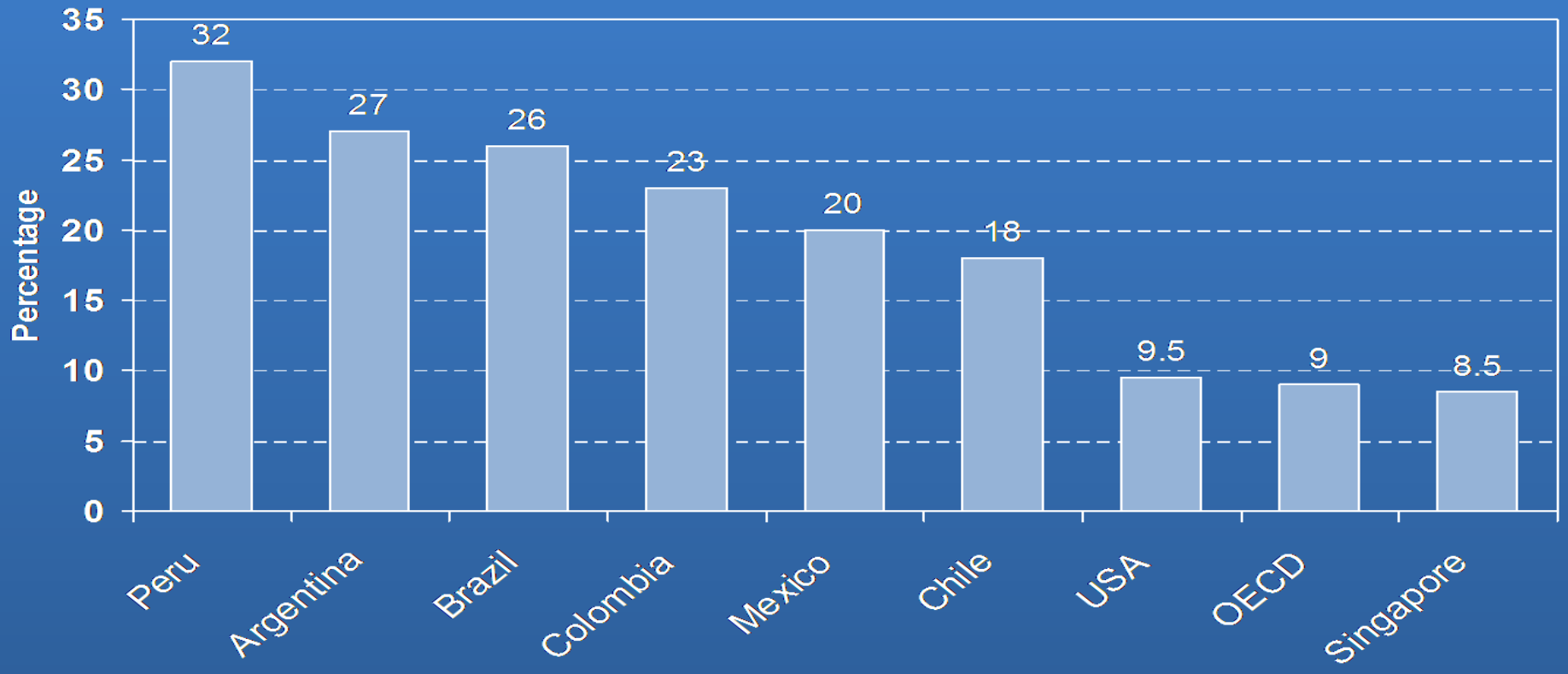
Logistics is a driver of competitiveness



Source: Guasch (2004, 2008)

COMPETE CARIBBEAN

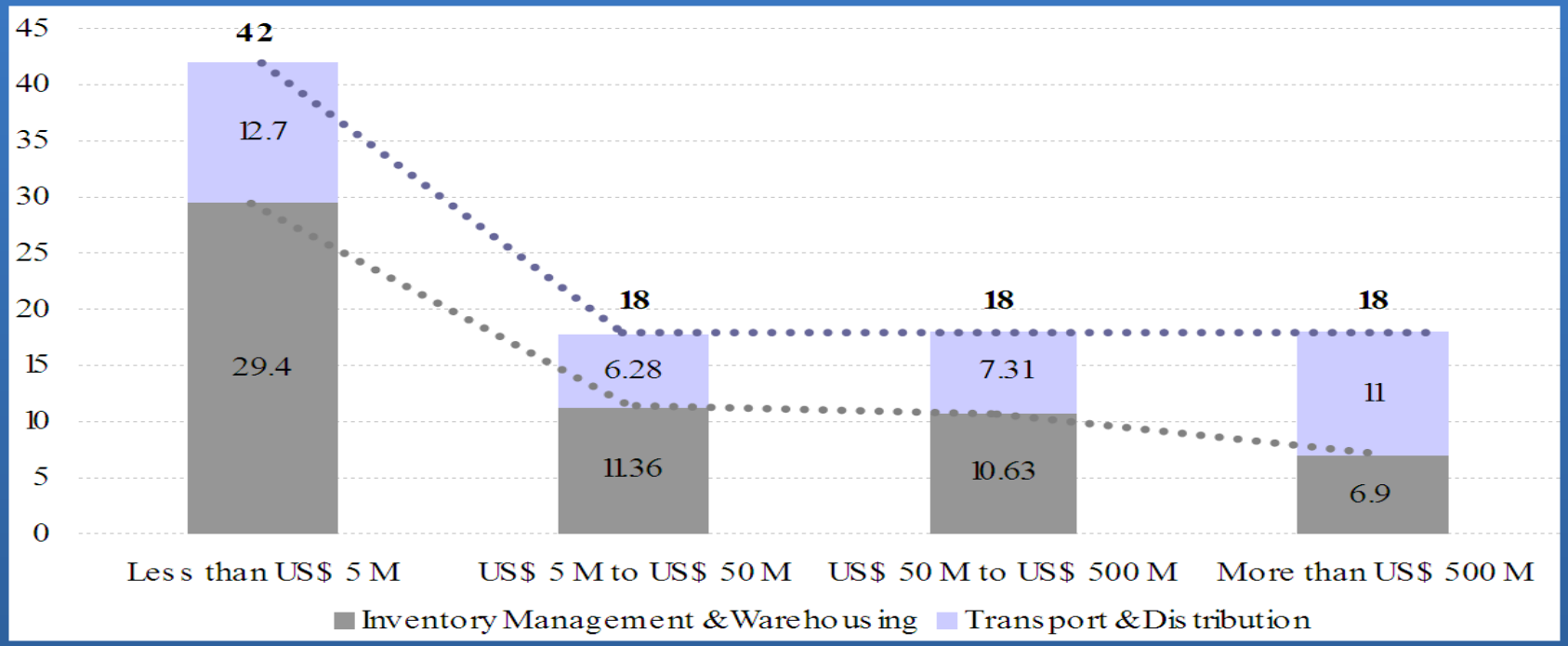
Figure 3: Logistic Cost as Percentage of Product Value, 2004



Source: Guasch and Kogan, 2006

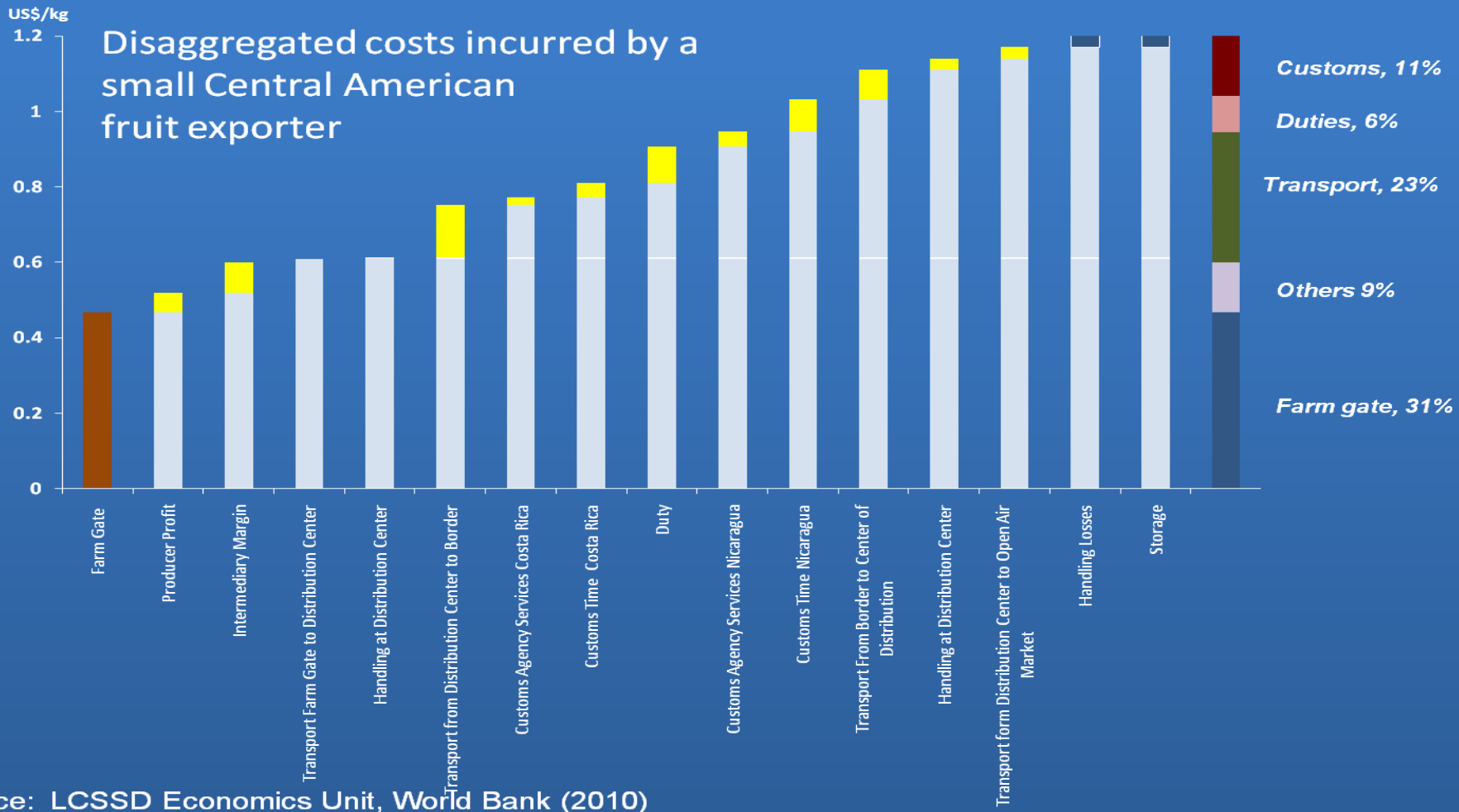
Logistics costs are a driver of firm prices and stronger adverse effec t on SMEs

LAC Logistics Costs by Firm size: % of Total Value of Firm Sales



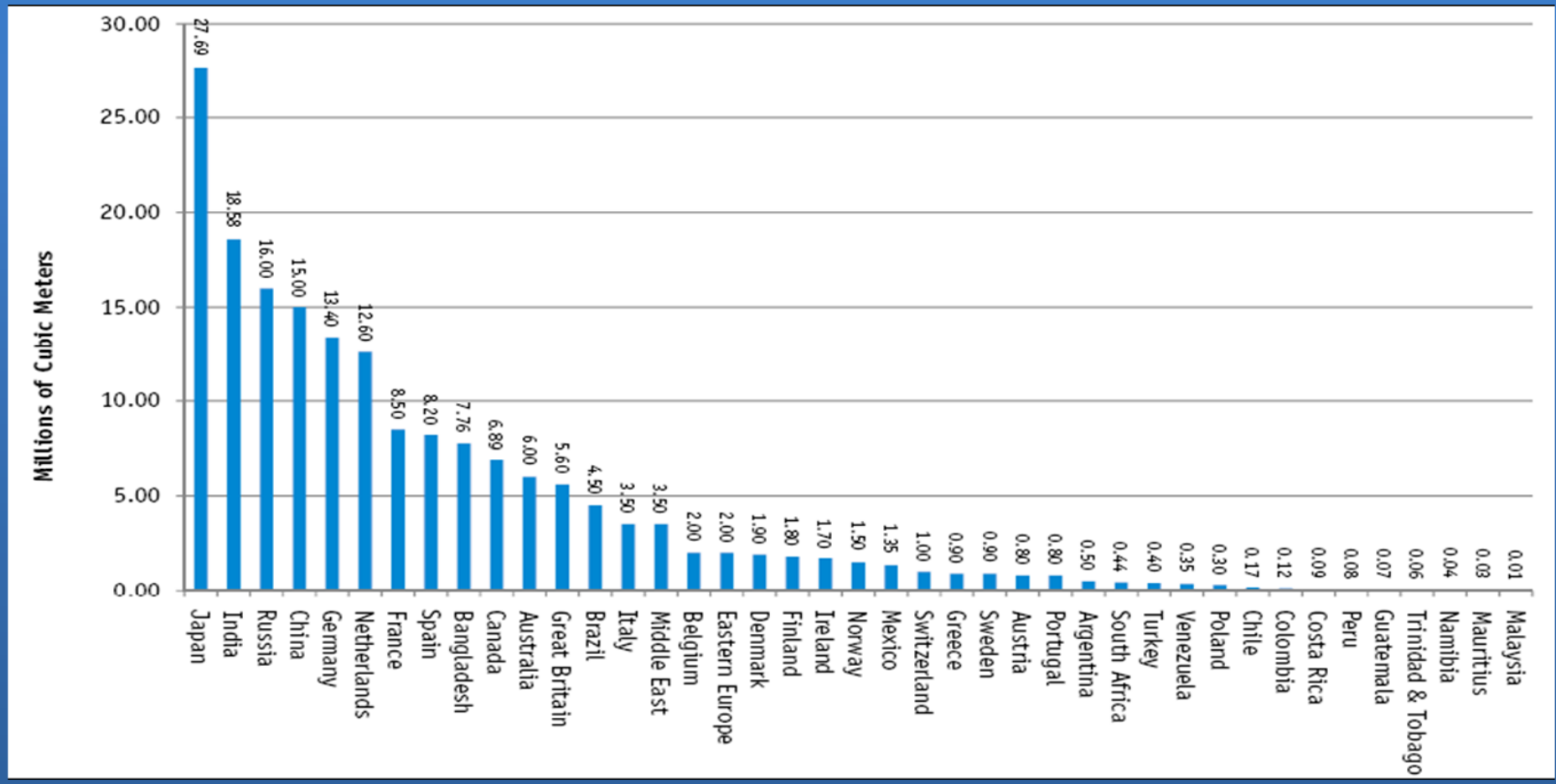
Fuente: Centro Logístico de Latinoamérica, Bogot, Colombia. Benchmarking 2007: Estado de la Logística en America Latina Anexo, María Rey LogisticSummit 2008

Local producers are punished by logistics costs



Source: LCSSD Economics Unit, World Bank (2010)

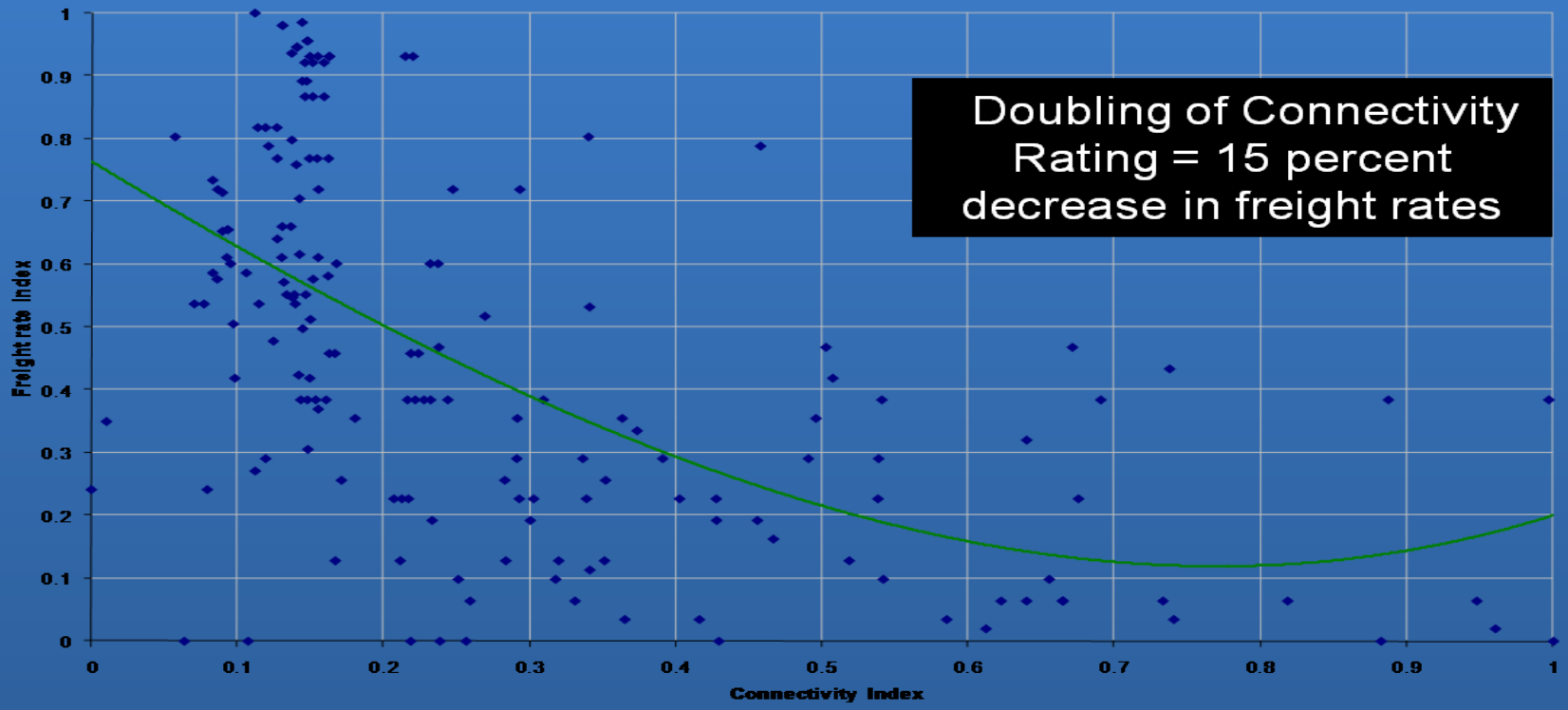
Global PRW Capacity in 2008



Source: IARW

Logistics Benchmarking – Maritime Connectivity

Freight Rates and Connectivity, Container Shipping Caribbean Basin, 2006

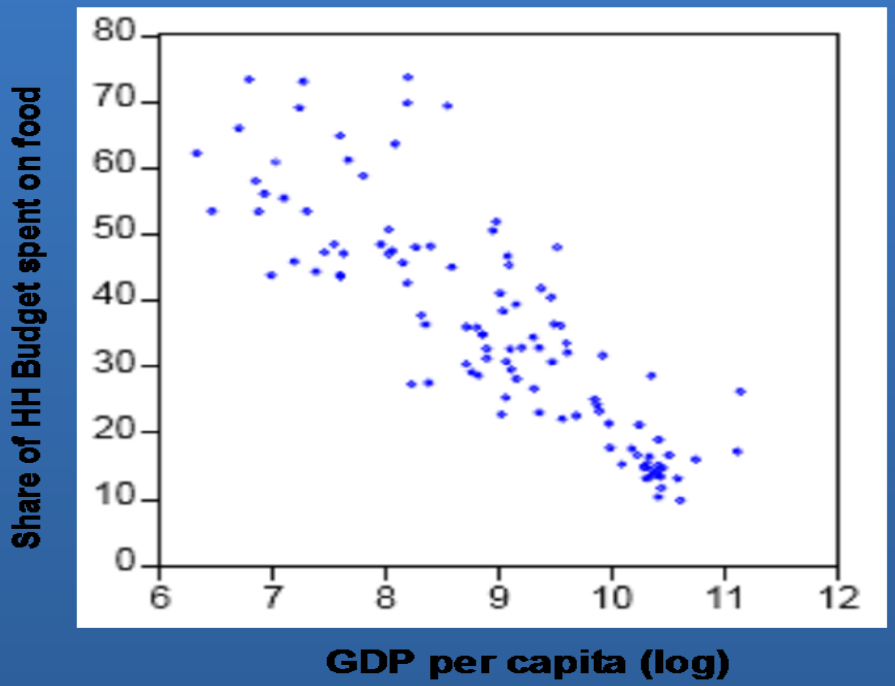


Source: UNCTAD LSCI, Wilmsmeier (2008)

Logistics costs affect the poor

- Logistics and transport costs are 2 to 10 times higher than import tariffs for basic goods.

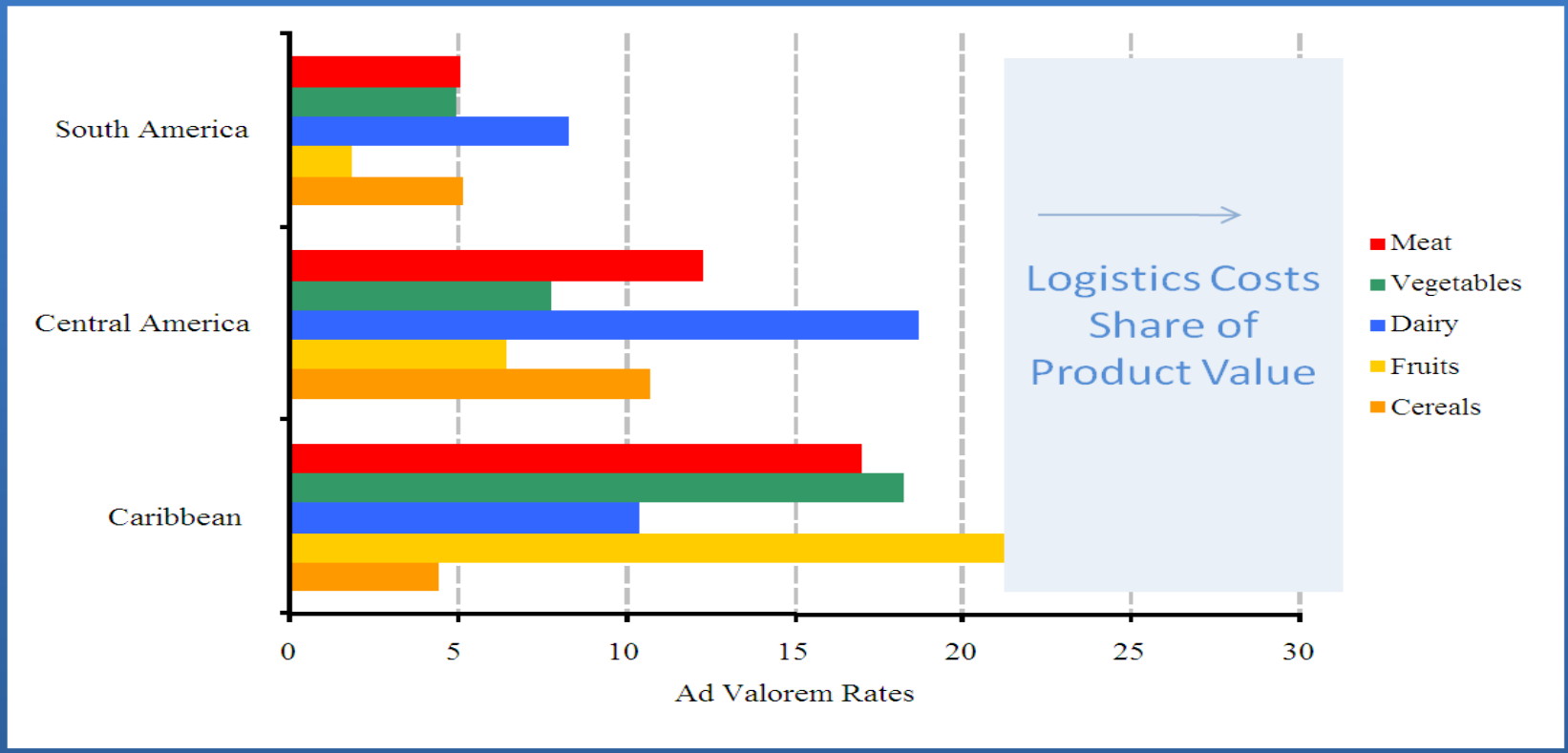
- These basic goods represent 20 to 30 % of household income
  - For the poor may represent up to 70



Source: Dessus, et al, World Bank (2008); data from household surveys.

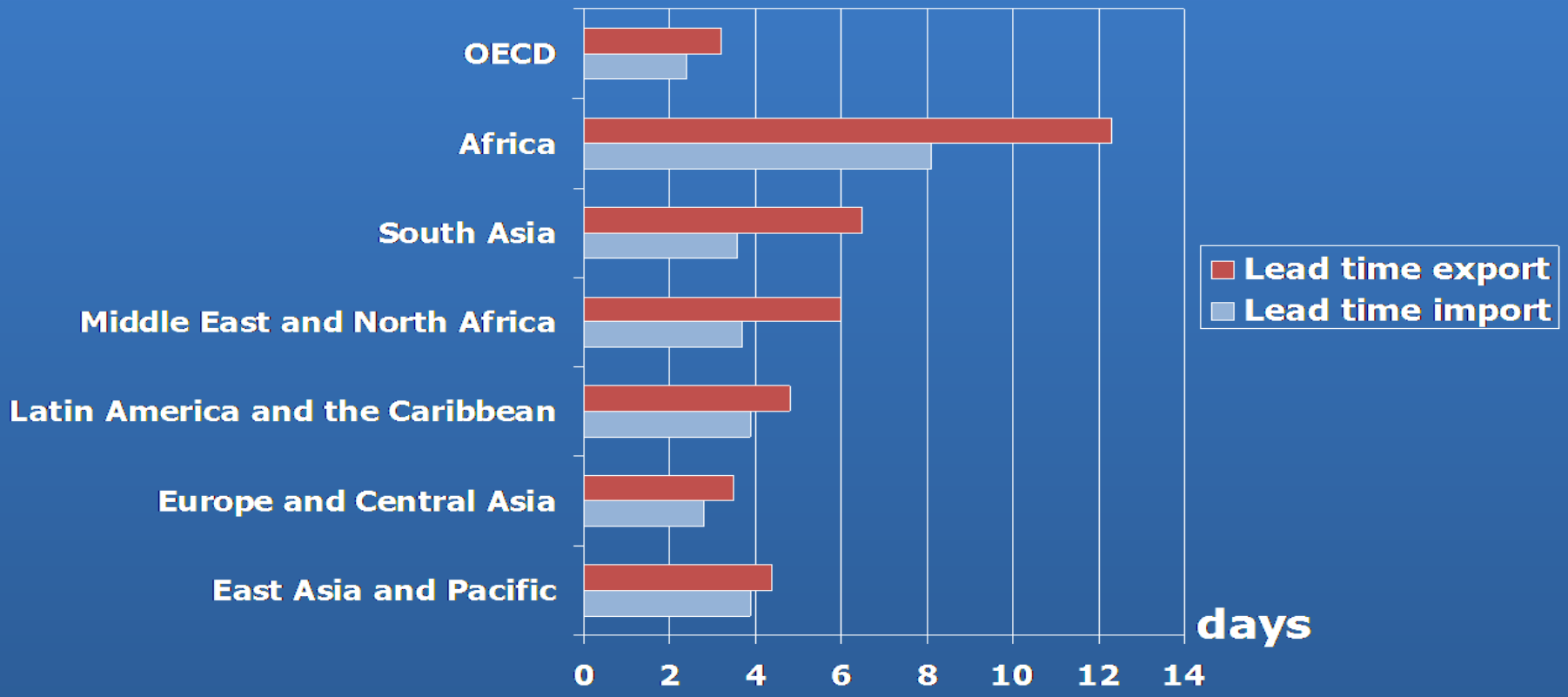
LAC's logistics costs are higher than tariff barriers

LAC import tariffs on food, 2008



Source: World Bank LCCSD Economics Unit (2010) calculations using TRAINS database, UNCTAD 2008

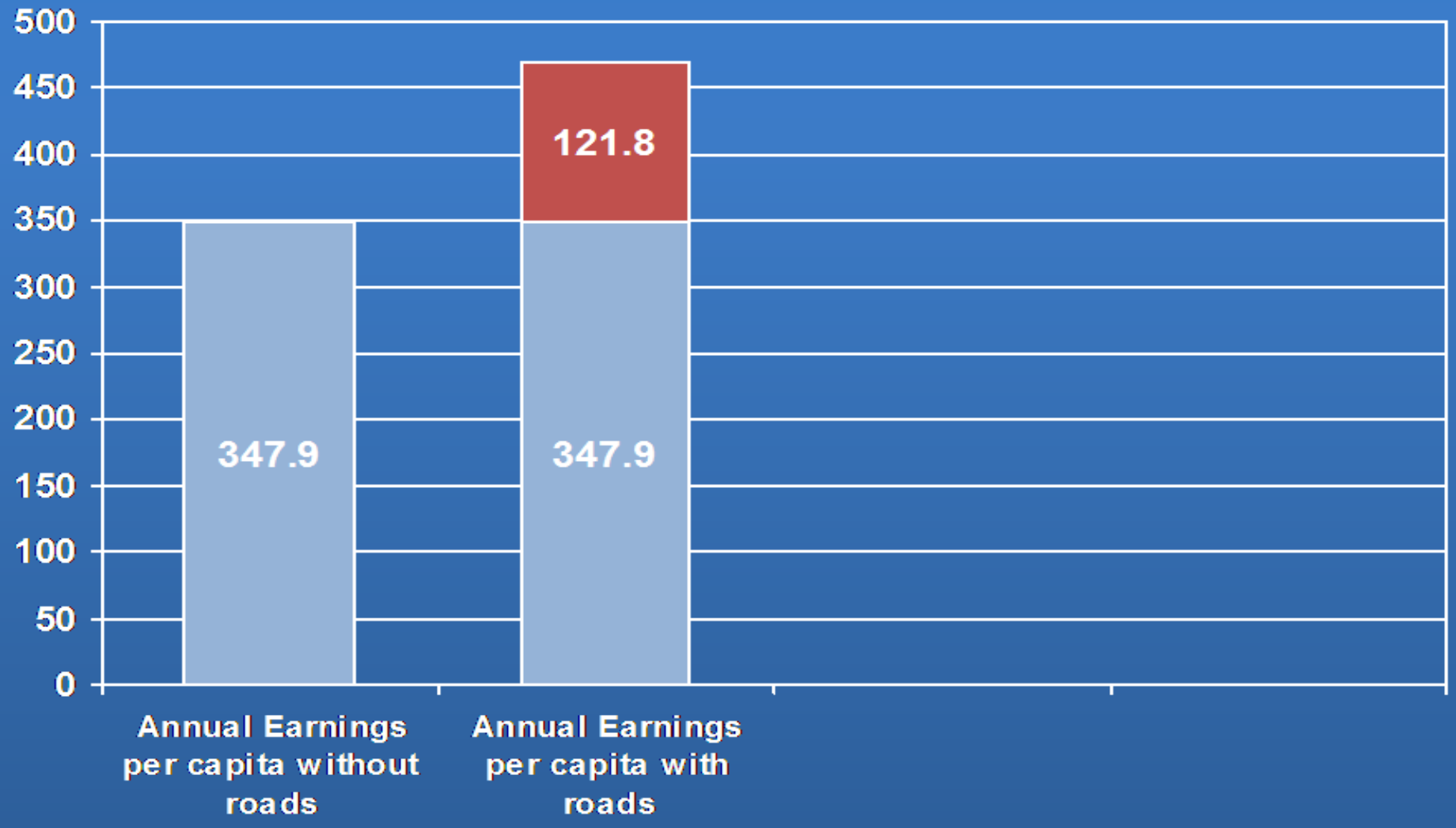
Numerical Outcomes



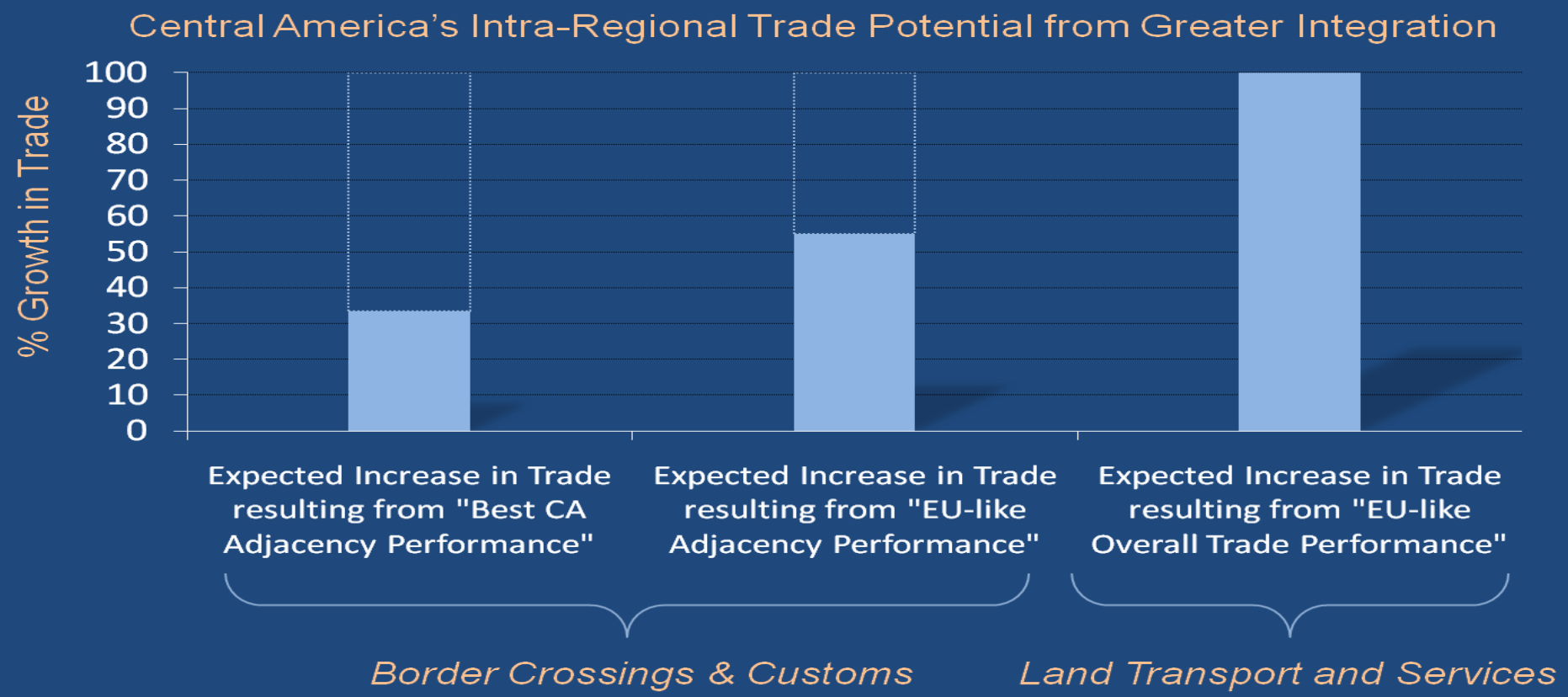
Over 2/3 of the time to trade is due to "software" …

Days to export

	Bangladesh		Colombia		Liberia		Nepal		Rwanda	
Documents preparation	15	**54%**	15	**63%**	9	**45%**	14	**33%**	17	**36%**
Customs clearance and technical control	6	**21%**	2	**8%**	6	**30%**	4	**9%**	6	**13%**
Ports and terminal handling	6	21%	3	13%	2	10%	4	9%	6	13%
Inland transportation and handling	1	4%	4	17%	3	15%	21	49%	18	38%
Total	**28**	**100%**	**24**	**100%**	**20**	**100%**	**43**	**100%**	**47**	**100%**


500
450
400
350
300
250
200
150
100
50
0
121.8
347.9
347.9
Annual Earnings per capita without roads
Annual Earnings per capita with roads

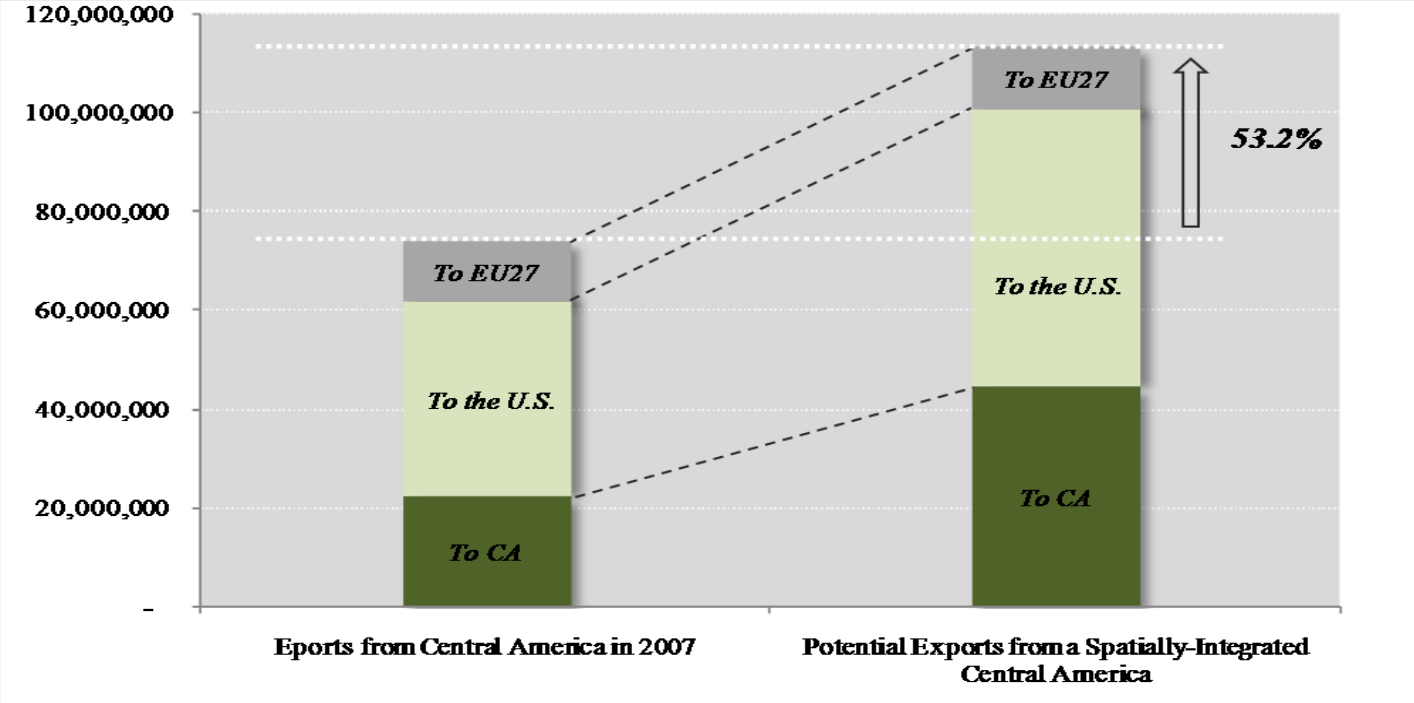
Better logistics means more intra-regional trade



Source: LCSSD Economics Unit, World Bank (2010)

...and more extra-regional trade

Central America's Extra-Regional Trade Potential from Greater Integration



Source: LCSSD Economics Unit, World Bank (2010)

COMPETE CARIBBEAN

Table 8: Overview of Overview of Simulation: Bring Below-Average Members Halfway up to the Global Average (change in trade flow in US$ billion)

	Change in trade facilitation		
	Importer	*Exporter*	*Total*
"Border" measures			
Port efficiency	23.40 (0.6%)	84.53 (2.2%)	106.93 (2.8%)
Customs environment	32.87 (0.8%)		32.87 (0.8%)
"Inside the border" measures			
Service sector infrastructure	36.64 (0.9%)	117.38 (3.0%)	154.02 (4.0%)
Regulatory environment	24.39 (0.6%)	58.86 (1.5%)	83.25 (2.1%)
Total	117.30 (3.0%)	259.77 (6.7%)	377.06 (9.7%)

Source: Wilson et al., 2004.

Bringing logistics costs down ten percentage points creates demand and employment

Sector	Growth in Demand	Growth in Employment
Agro-Industry	9%	5%
Furniture	10%	12%
Textiles	6%	7%
Leather/Shoes	12%	10%
Mining	7%	2%

Source: Guasch, Kogan (2006)

COMPETE CARIBBEAN

Why is efficiency in trade logistics important?

If trade transaction times for developing economies were reduced to OECD average levels …

Global trade would increase by 12% equivalent to US $1.8 trillion

Africa would show the largest percentage increase

Direct implications for growth, investment, jobs and poverty reduction

Source for estimates: Hausman, Lee and Subramanian research paper "Global logistics, supply chain metrics and bilateral trade patterns" (2006)

The Economics of Logistics: Evidence of Impact

Logistics Component	Trade, Income and /or Productivity	Transport Cost / Transit Times / Reduction in prices of goods
Macro-Analysis on Logistics / Trade Infrastructure	Reducing logistics costs can positively impact the share of trade in GDP. Improving infrastructure produces large real income gains and reduces Gini.	Each day saved worth 0.8 ad valorem tariff . A day is equal to 1 percent of trade.
Road Corridors / Trucking Services	Consumer Surpluses from improved access. Expanding hinterlands for rural producers. Large elasticities for intra-regional trade.	Largest share of logistics costs for most goods & time loss for small shippers Competition in trucking, maintenance of travel speeds (ROW) required to reap benefits of improved roads
Port Efficiency Ocean Shipping	Port efficiency reduces maritime transport costs.	Freight rates decrease when countries are connected by direct shipping service and with broader competition
Air Shipping/ Airports	Open Skies agreements reduce airport costs and increases trade.	Improving infrastructure and regulations reduces costs.
Border Crossings / Customs	Without borders, trade responds to "gravitational pull" of neighboring economies--by product and overall.	Delays in customs increase costs while direct land access reduces costs Distance increases transport costs. Unified procedures & compatible IT systems reduce times. Delays in transit have a negative impact on trade
Storage, Warehousing	Financial burden of high inventory typically > 3 of GDP.	Third party access to storage critical for independent shippers. Lower inventory holdings reduce production costs.

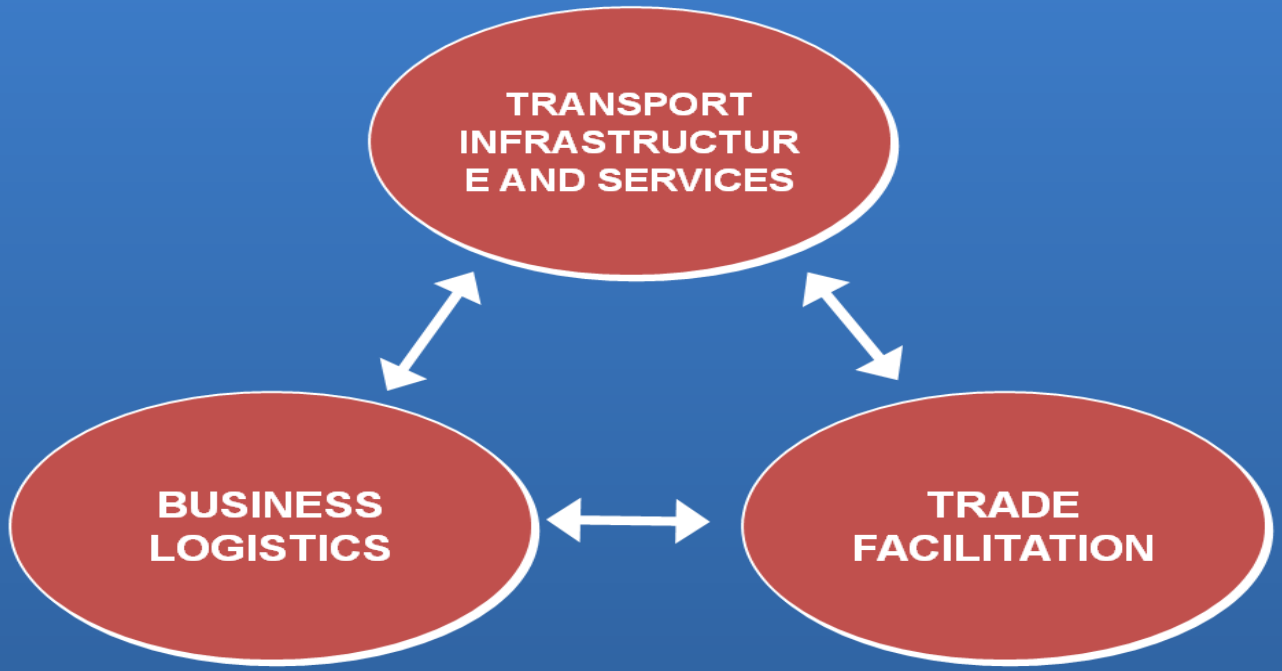
Moving Forward: A Logistic Framework for Action

COMPETE CARIBBEAN

A

B

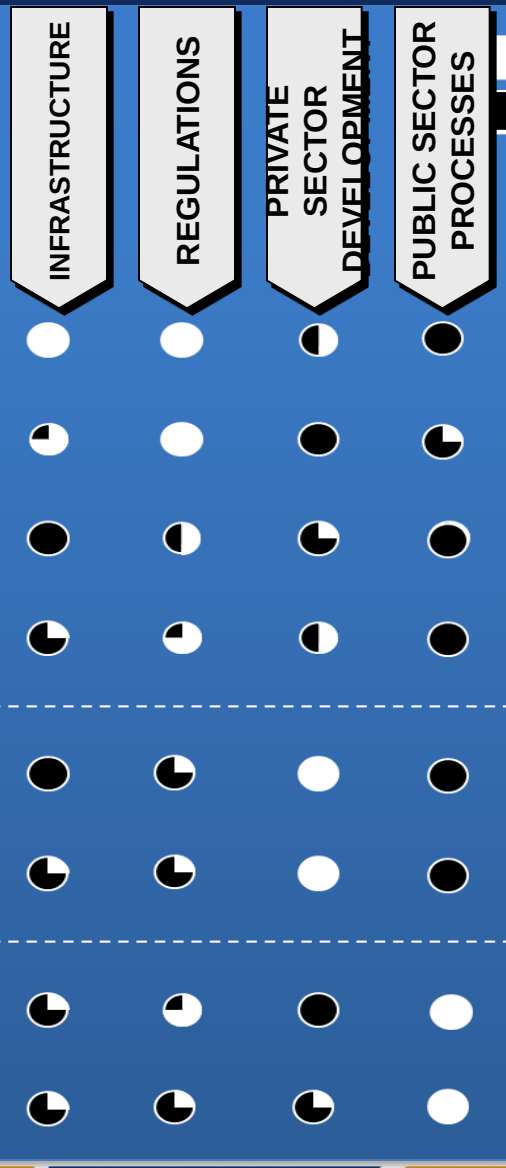
Ensuring the flow of goods throughout the logistics chains implies dealing with three main areas



The multi-sector characteristic of the issue requires the involvement of several private and public stakeholders in the Country, and a coordinated effort

The emerging framework and the policy levers

Areas	Activities	Typical components
Transport infrastructure and services	INTERNAL FLOWS	► Roads, trucking industry ► Railways ► Inland navigation, cabotage
	TRANSFER NODES	► Ports ► Airports ► Border crossings
	EXTERNAL FLOWS	► Shipping ► Air transportation ► International trucking
	INTERFACE & COORDINATION	► Multimodalism ► Intermodal coordination
Business Logistics	SUPPLY CHAIN ORGANIZATION	► Materials and inventory management ► Distribution
	LOGISTIC OPERATORS AND AGENTS	► Logistics operators, freight forwarders, freight agents ► Logistics parks
Trade Facilitation	DOCUMENTATION & INSPECTIONS	► Documentation ► Customs control ► Other inspections
	SECURITY	► Control in key gateways ► Control along the supply chain



Slide Title

COMPETE CARIBBEAN

A

B

A blueprint for a national logistics strategy study

1. Overview

FREIGHT TRANSPORT AND LOGISTICS RELEVANCE AND PERFORMANCE

2. Supply side view: performance and condition

- LOGISTICS SYSTEM COMPONENTS
- INSTITUTIONS, REGULATIONS
- ONGOING PROJECTS

3. Demand and users perspective

- CURRENT FREIGHT FLOWS PATTERN
- LOGISTICS PERFOR-MANCE SURVEY
- VALUE CHAIN ANALYSIS

4. The basis for a national logistics strategy

PERSPECTIVES AND NEEDS

- A vision and a demand scenario
- Trends and constraints
- Key problems
- Strategy pillars

5. Setting the agenda, its needs and impacts

- KEY INITIATIVES
- PRIORITIES: SETTING AN STRATEGIC AGENDA
- FINANCIAL NEEDS AND POTENTIAL SOURCES
- INSTITUTIONAL AND REGULATORY NEEDS
- EXPECTED BENEFITS
- MONITORING AND EVALUATION SCHEME

Infrastructure and Services Platform

- Hardware
  - Export (and Tourism) corridors
  - Network of service sites
  - Port and Accesses
  - Regional exit points: ports and airports
  - Logistic terminals-network
  - Access
  - Export zones
  - Cross Border
- Software
  - Single windows
  - Dedicated lines: Perishables
  - Privileged lanes
  - Customs
  - Warehousing
  - Cool Chain
  - Multimodality Law
  - Transport services: Trucking
  - Certifications on quality and phytosanitary compliance
  - Digitalization of Certificates of Origin

Logistic/Infrastructure Focus

- Institutional Port Reform
- Corridors framework and selected feeder roads
- Key priority: Export Zones- Port
- Border zones
- Trucking services
- Jurisdiction issues, associated services in ports (cold chain and storage), equipment, consolidation, customs and so on

Slide Title

- **Ports and Maritime Transport**
- Focus on investments, operational efficiency, and landside linkages for greater connectivity
- Anticipate growth and invest in landside and waterside capacity
- Introduce spatial planning into the notion of port location and expansion
- Encourage consolidation or coordination of small private operators
- Use competition authority to investigate vertical and horizontal integration issues

- **Airports**
- Focus on linkages with other transport modes and access issues
- Develop cooling capacity, since most perishables use that mode of transport
- Implement single window procedures and dedicated inspections
- Decentralize services in larger countries

Slide Title

- **Customs Clearance and Border Crossings**
- Improve clearances/inspections through better cross-border collaboration and coordination between phytosanitary and customs services
- Implement digitalization of Certificates of Origin
- Set export clearance times as the standard for import clearance times
- Simplify customs declarations forms, procedures, and clearance and move into a single window framework
- Use risk-based selectivity process for inspections and deploy dedicated lines-for perishables and safe profiles
- Harmonize customs standards for sub-regions
- Reduce fines for minor documentation errors

Slide Title

- **Inland Transport: Roads and Trucks**
- Focus on speed and ease of travel, competition in service provision, and access and capacity of transfer and storage facilities
- Improve road quality, keeping in mind that the present value of maintaining a road regularly is an order of magnitude less than rehabilitating it once every ten years
- Strengthen trucking regulations and enforcements
- Facilitate the development of ample storage, warehousing, and transfer facilities
- Strengthen logistics planning based on more sophisticated freight flow modeling
- Corridor program
- Selective feeder road
- Access and linkages

- **Cold Chain**
- Implement program of network of silos with cold capacity (as a public-private partnership or with sunset clauses)
- Implement program of warehousing with cold capacity at exit points, such as ports and airports (as a public-private partnership or with sunset clauses)
- Incentive program for trucks/containers with cooling capacity

Slide Title

- **Decentralization of Export/Imports Related Services**
- Particularly for medium and large countries, a selective and educated decentralization of exports and imports services and facilities is critical. As of now, in many countries the tendency is to have those services concentrated in a single point or location, which adds to the logistics cost since goods have to be moved through that location, regardless of where they are being produced.
- **Special Economic Zones**
- Since the process, expenses, and time to provide or facilitate an effective logistics system can be quite lengthy and costly, it is often desirable to create dedicated zones with state-of-the-art logistics to jump start the process and capture relatively quickly the benefits. Thus developing special economic zones near the exit points is suggested.
- **Packaging Program**
- As mentioned, an important source of logistics costs is poor and deficient packaging of the goods leading to high rates of damage and spoilage. To address this issue, governments could consider facilitating Centers for Knowledge Transfer and Services on packaging to assist producers in their packaging needs. This could be done as a public-private partnership.
- **Multimodality Program**
- An effective logistics system needs to develop and use multimodality and multimodal operators. The transport system has to be integrated, not a system of uncoordinated transport modes. Integrated transport planning is thus critical (strategic corridors development), as is appropriate legislation to facilitate the use of multimodality and multimodal operators.

Easy Export

- Export by post
- From any part of the country
- Avoids all intermediation and logistic costs
- Filing one page trough internet
- Limits in value 2,000 to 5,000 US$
- Limits in size 30 to 50 Kilos
- But unlimited sends
- Insurance available
- Extraordinary impact on micro and SMEs

COMPETE CARIBBEAN

Thank you.

IDB UKaid from the Department for International Development Canada