

Shipping GHG policy and potential impacts on maritime transport costs and trade

Nicholas Lazarou, Isabelle Rojon, Nishatabbas
Rehmatulla

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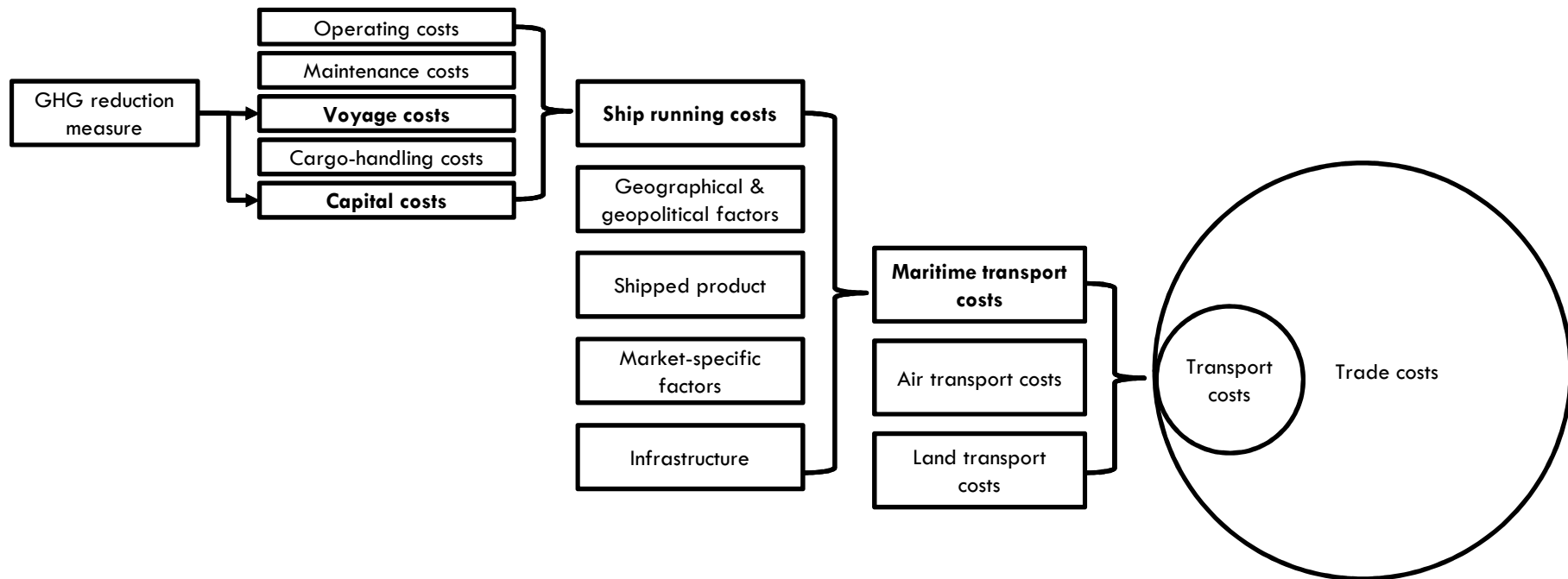


Maritime consultancy delivering applied solutions for a carbon constrained future

Importance of maritime transport costs

- Maritime transport is an enabler of international trade
- Maritime transport costs are important for determining a country's ability to trade
- High transport costs are a barrier to trade similar to (or larger than) tariffs.
- Higher transport costs can negatively affect economic growth:
 - reduce income from the exports of primary products
 - increase prices of imported goods
 - Less money available for investments

Determinants of maritime transport costs



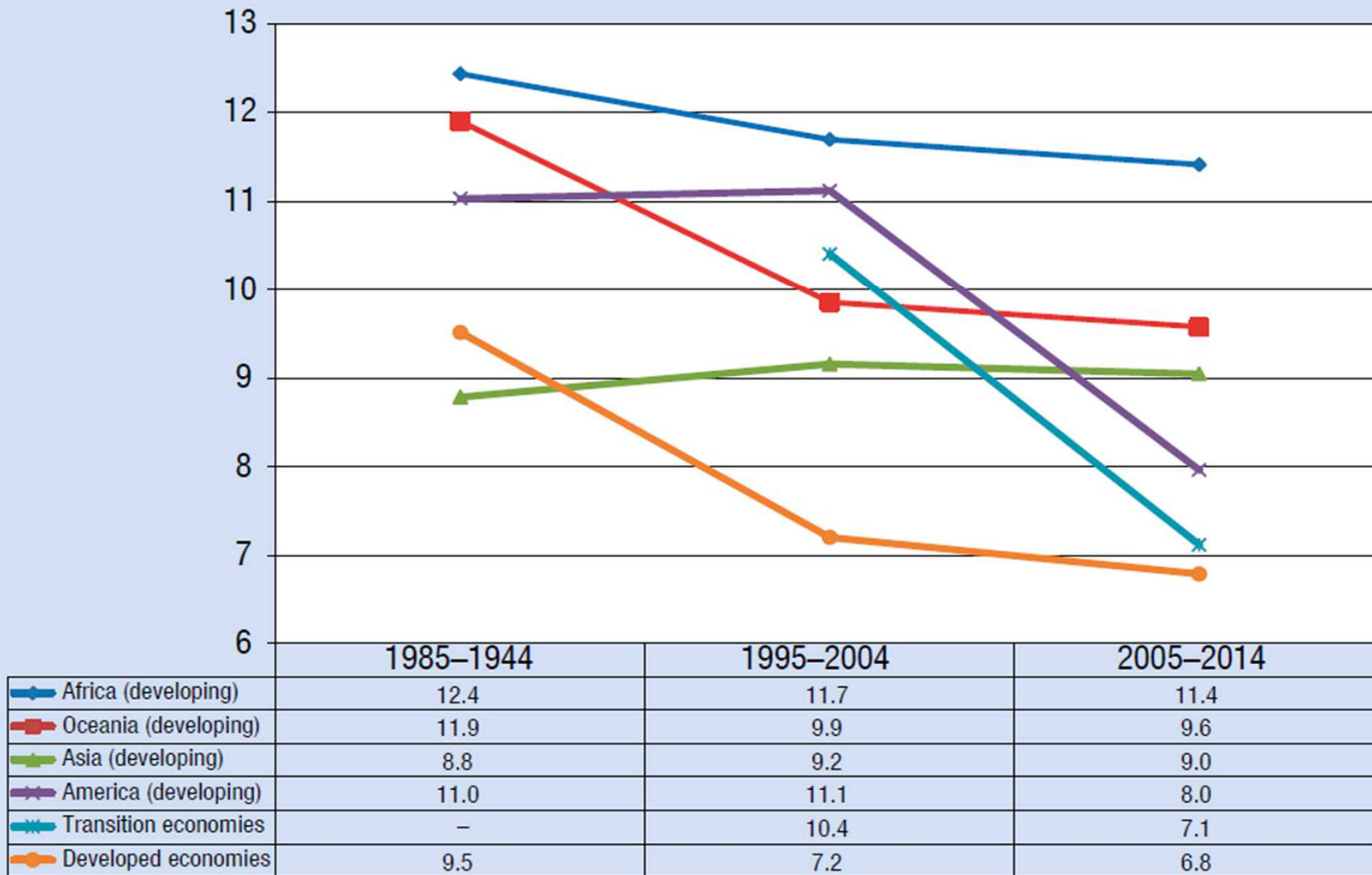
Impact of carbon pricing on maritime transport costs

		Kronbak et al. 2009 ¹	Faber and Rensma 2008 ²		Faber et al. 2010 ³	IMO 2010 ⁴				Anger et al. 2013 ⁵	Chowdhury and Dinwoodie 2011 ⁶	
Inputs/assumptions	Transport segment/ product studied	Container			Handy- and capesize bulker, handysize product tanker, VLCC, container and ro-ro		Iron ore	Crude oil	Grains	Furniture & clothing	all	Coking and steam coal
	Fuel price	US\$ 550/tonne	US\$ 700/tonne	US\$ 450/tonne	US\$ 360.5/tonne					US\$ 738/tonne		
	Carbon price or bunker contribution/levy	US\$ 45/tonne CO ₂	US\$ 30/tonne CO ₂	US\$ 30/tonne CO ₂	US\$ 15-30/tonne	10% increase of bunker fuel price				US\$ 10-50/tonne CO ₂	1% increase in spot bunker price	

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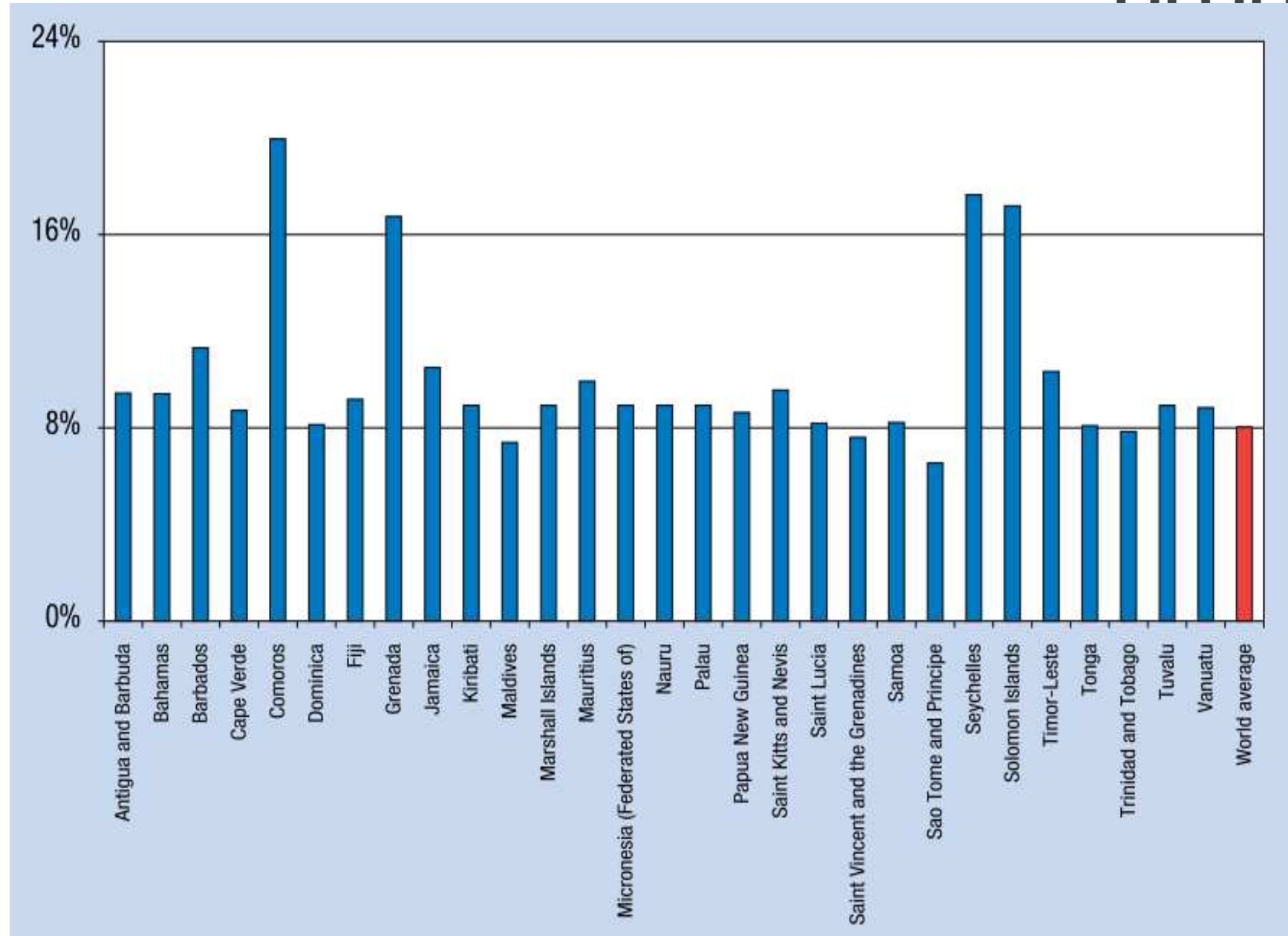
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Findings	Increase in freight costs	1-5%	4-8%	6-12%	4-16%		5-14%	3.2-3.7%	2.5%		0.4-3.4%	0.6-1.36%
	Increase in import prices of goods	<1.9%	<1% for food imports		0.2-3%	<0.2% (similar for exports)		0.2-0.4%	0.2-0.7%	<0.2%	n.a.	

Freight costs as a % of import value



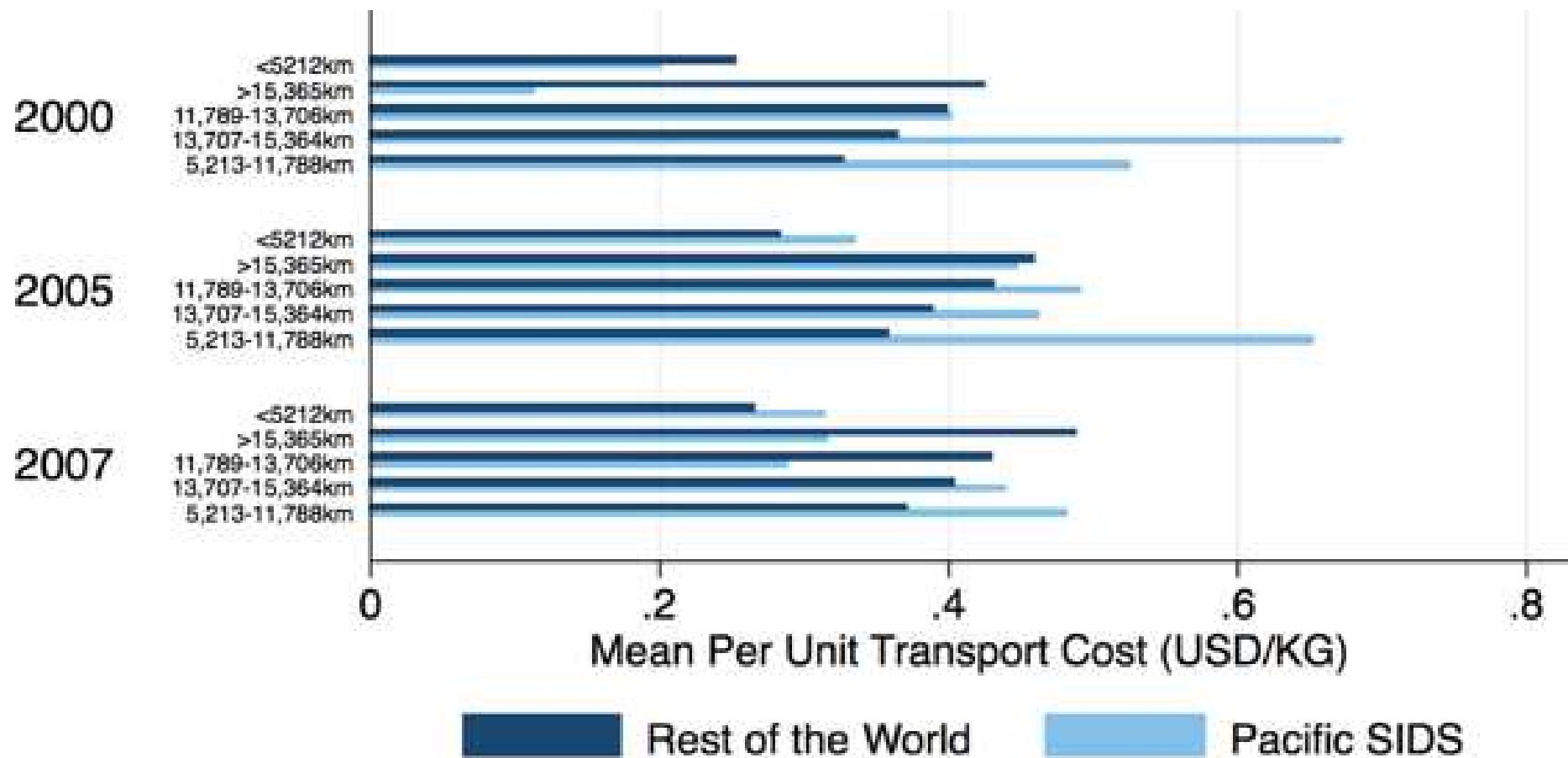
Maritime transport costs in SIDS

- Small domestic markets, low volume of trade
- Little export but heavy reliance on imports
- Geographical remoteness; distance from maritime belts or corridors
- Inefficient port facilities



Focus on Pacific SIDS

- Geographically remote, low accessibility to major trade routes
- Low economic output, low trade volumes
- 67% of GDP imported; narrow range of exported products
- Per unit transport costs for P-SIDS exporting to rest of the world 6% higher compared to rest of the world



Relationship between transport costs and imports/exports for P-SIDS

- Insufficient data for imports
 - correlation between quantity exported (in kg) and per unit cost of transport
 - For every 10% increase in per unit transport costs, quantity exported reduces between 8.3-18.5% (for e.g. coffee, 20-30%)
- significantly negative and elastic impact of per unit maritime transport costs on P-SIDS exports

Conclusion

- Higher transport costs are a barrier to trade and can negatively affect economic growth
- various determinants of maritime transport costs, many could be influenced
- overall effect of carbon price found to be relatively low
- developing countries likely to be more negatively affected

Thank you!