



LOCAL CONTENT REQUIREMENTS

Their Potential Economic Effects on Shipbuilding

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*OECD Workshop on Factors Impacting Costs and Distorting
the Shipbuilding Market*

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Contacts:

Ms Karin GOURDON, Economist, Karin.Gourdon@oecd.org;

Mr Joaquim MARTINS GUILHOTO, Economist, Joaquim.GUILHOTO@oecd.org

Directorate for Science, Technology and Innovation (STI) – Structural Policy Division



Overview

1. Background
2. Estimated Economic Effects of LCRs
 - i. Brazil's Oil and Gas LCR
 - ii. US Jones Act
3. Final remarks



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Background – the project

1. **Simulation of (static) policy effects** on economic outcomes in the implementing country (2 case studies)
2. **Unique dataset disaggregated to the level of the shipbuilding industry:** TiVA* 2018 – an Inter-Country Input Output database
3. **Collaboration with TiVA team of STI:** Special thanks to Mr Yamano, Mr Alsamawi and Mr Guilhoto for their help and data preparation.



Background – local content policies

- **Requirement** for the target industry **to procure a minimum percentage of value added or intermediate inputs domestically.**
- **Ideal firm choice:** sourcing an optimal amount (required for profit maximization) from abroad.

Usually observed effect of LCR policies on:

- **Domestic economy (Hufbauer et al., 2013, and others)**
 - **Short-term:** intended increase in output of the local upstream sector.
 - **Long-term:** large economic costs outweigh the short-term benefits. Higher prices of domestically procured components will increase the price of the final good and, as a result, the quantity sold will decline along with domestic welfare.
- **International trade (Stone, Messent and Flaig, 2015)**
 - Strong decline in trade in third countries.
 - 80% of the decline in trade arises from the policy's effects on intermediate products.



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Brazil's Offshore Oil and Gas Sector Programme

- ANP* applies **LCRs** for the stages of exploration and production development (E&P) of oil and natural gas blocks **since 1999** (first bidding round).
- LCR clause is **embedded in concession agreements** which are contracted between ANP and winning companies.
- Since 2005/2006 (discovery of pre-salt cluster) **gradual increase of local content.**
- **Since 2017: Relaxation of LC policy** (starting with 14th concession round in September 2017)



LCR reform in Brazil's O&G sector

- **Modification** of LC as a scoring factor in bids,
- **Simplification** of commitments,
- **Reduction** of the minimum required LC percentages:

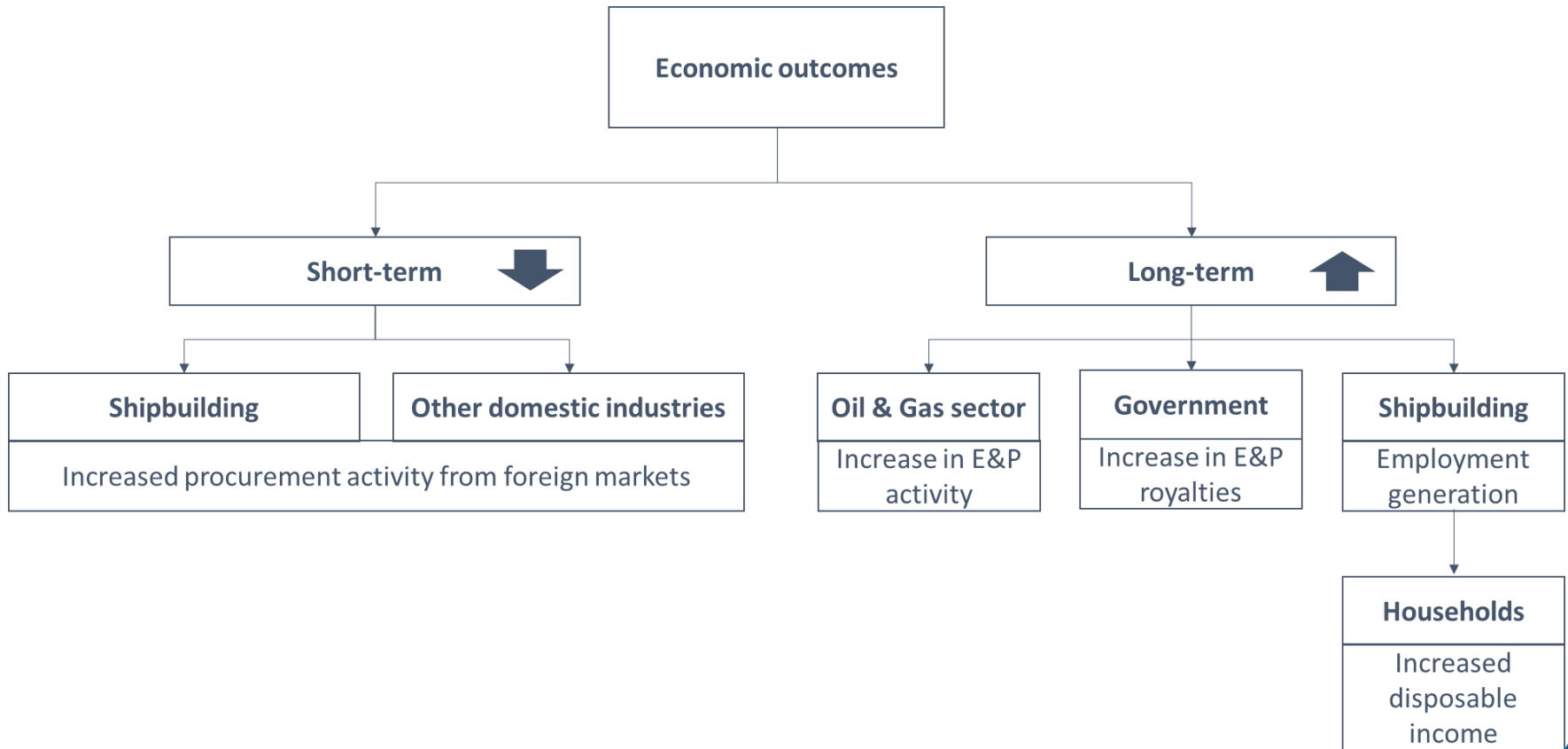
New requirements on oil and gas concessions

	13th Concession Round	New Requirement
Onshore		
Exploration	70%	50%
Development	77%	50%
Offshore		
Exploration	37%	18%
Development:		
<i>Well construction</i>	55%	25%
<i>Collection & Drainage system</i>	55%	40%
<i>Stationary production unit</i>	55%	25%



Estimation Strategy

Effects of Brazil's Local Content Reform on Economic Outcomes





US Jones Act (1920)

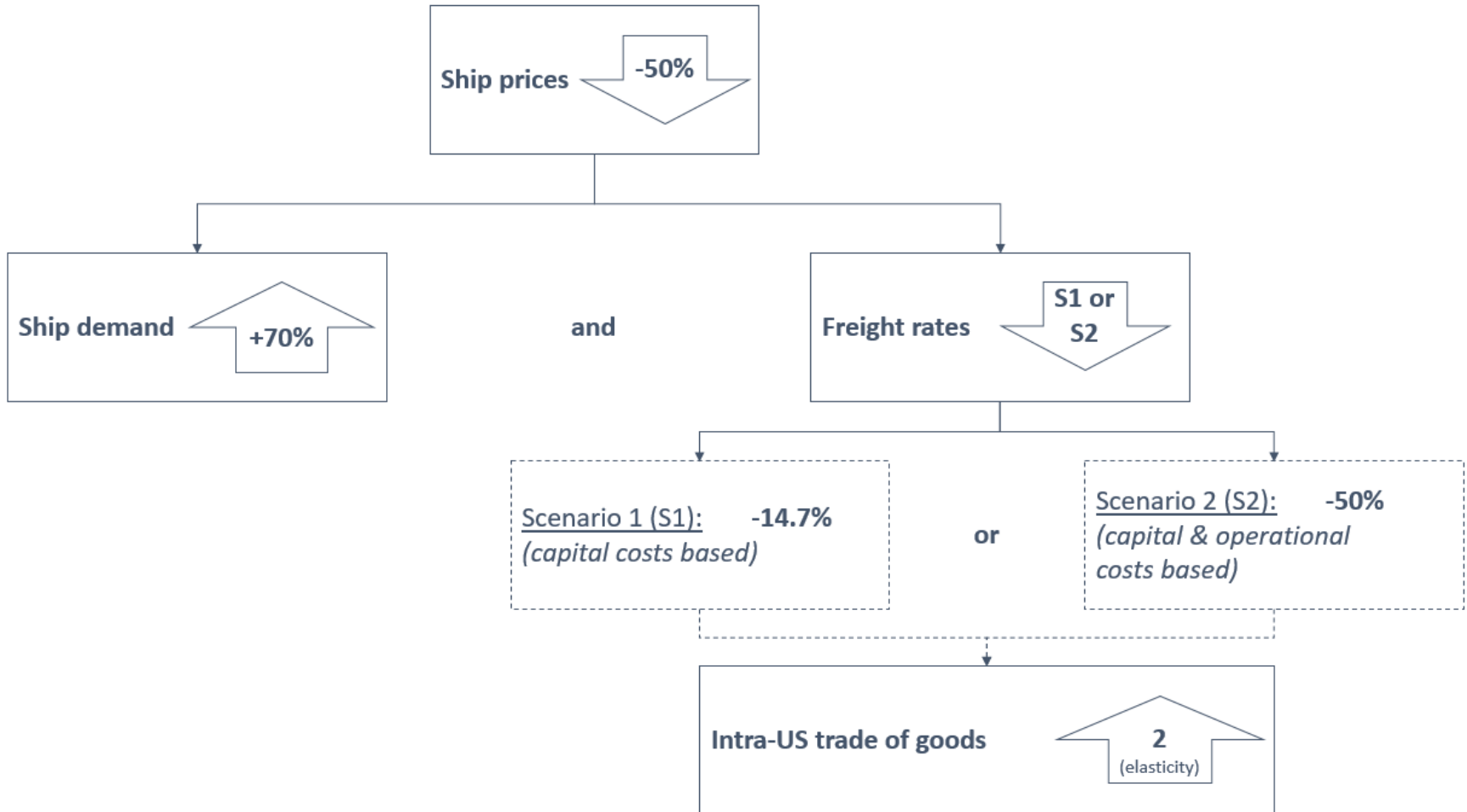
... reserves domestic shipping for **vessels that are built, owned, crewed and flagged in the US.**

- National security concerns as **original rationale.**
- Previous studies* highlight the **massive economic costs** associated with the Act:
 - e.g. every job saved by the Act costs ~USD 250 000,
 - Act raises transportation costs between US ports, e.g. **freight costs are twice as high** as for non-Jones Act compliant vessels, and operating costs ~2.7 times higher (due to US crew requirement),
 - **Vessel prices are two to four times more expensive** than those of foreign built vessels.

*Sources: (1) Frittelli, J. (2014), Shipping U.S. Crude Oil by Water: Vessel Flag Requirements and Safety Issues; (2) Federal Reserve Bank of New York (2012), Report on the competitiveness of Puerto Rico's economy; (3) Bergstresser, Dan, and Marc Melitz. 2017. "The Jones Act and the Cost of Shipping Between U.S. Ports." EconoFact; (4) Stiglitz, Joseph via National Public Radio (2016), Episode 524: Mr Jones' Act.



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Final remarks

- Simulation results as a **mirror image** of the long-term inefficiencies caused by local content policies.
- Results for **Brazil reveal the enormous gains** expected with the policy reform.
- Results for the **US illustrate the unrealized potential** the economy could exploit should the Act be abolished.
- **More efficient alternatives** to LC policies :
 - Structural policies encouraging innovation, skills and business development
 - Employment generation through flexible training, education and employment services
 - Aim to resolve development obstacles rather than distorting prices.



THANK YOU

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Notes on data on shipbuilding industry (ISIC 3011 and 3012)

3011 - Building of ships and floating structures

This class includes the building of ships, except vessels for sports or recreation, and the construction of floating structures.

This class includes:

- building of commercial vessels:
 - passenger vessels, ferry boats, cargo ships, tankers, tugs etc.

- building of warships

- building of fishing boats and fish-processing factory vessels

This class also includes:

- building of hovercraft (except recreation-type hovercraft)
- construction of drilling platforms, floating or submersible
- construction of floating structures:
 - floating docks, pontoons, coffer-dams, floating landing stages, buoys, floating tanks, barges, lighters, floating cranes, non-recreational inflatable rafts etc.
- manufacture of sections for ships and floating structures

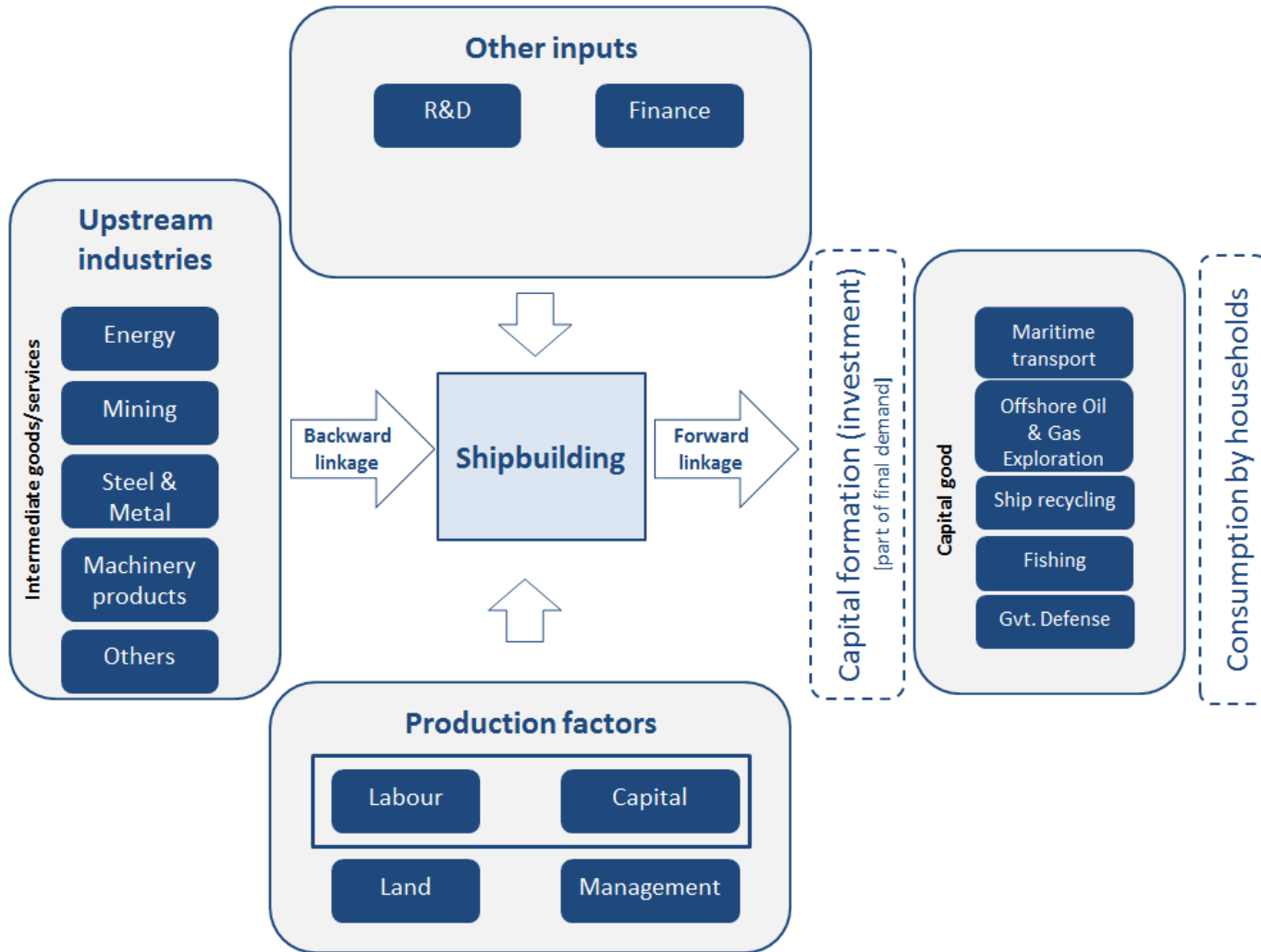
3012 - Building of pleasure and sporting boats

This class includes:

- manufacture of inflatable boats and rafts
- building of sailboats with or without auxiliary motor
- building of motor boats
- building of recreation-type hovercraft
- manufacture of personal watercraft
- manufacture of other pleasure and sporting boats:
 - canoes, kayaks, rowing boats, skiffs



Simplified shipbuilding supply chain



OECD Data explanation: Gross fixed capital formation (GFCF) is defined as the acquisition (including purchases of new or second-hand assets) and creation of assets by producers for their own use, minus disposals of produced fixed assets. The relevant assets relate to products that are intended for use in the production of other goods and services for a period of more than a year.



Inter-Country Input-Output (ICIO) structure

<i>Inter-country I-O</i> <i>at basic prices</i>		Intermediate demand						Final consumption and capital formation			Direct purchases by non-residents			Output
		Cou A		Cou B		Cou C		Cou A	Cou B	Cou C	Cou A	Cou B	Cou C	
		SB	Steel	Ind 1	Ind 2	Ind 1	Ind 2							
Cou A	SB													X(A1)
	Steel													X(A2)
Cou B	SB													X(B1)
	Steel													X(B2)
Cou C	Ind 1													X(C1)
	Ind 2													X(C2)
<i>Taxes less subsidies ..</i>		<i>... on intermediate products</i>						<i>... on final products</i>						
		NTZA1	NTZA2	NTZB1	NTZB2	NTZC1	NTZC2	FA	FB	FC	FA	FB	FC	
Value-added		V(A1)	V(A2)	V(B1)	V(B2)	V(C1)	V(C2)							
Output		X(A1)	X(A2)	X(B1)	X(B2)	X(C1)	X(C2)							

Key:

Cross-border flows of intermediate goods and services
Domestic flows of intermediate goods and services

Cross-border flows of final goods and services
Domestic flows of final goods and services