

# Deep Trade Agreements and Vertical FDI: The Devil is in the Details

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# Introduction

How are preferential trade agreements (PTAs) and offshoring related?

Offshoring can be done in 2 modes:

- outside the boundaries of the firm (arm's length trade) ) foreign

# What are Deep PTAs?

PTAs are usually thought of as reciprocal market access exchanges involving tariff cuts and the reduction of other border measures

The coverage of PTAs in terms of policy areas has widened and deepened over time

Modern day trade agreements contain provisions that cover a wide array of non-tariff measures, both at the border and behind-the-border. For example:

- technical barriers to trade (TBT)
- sanitary and phytosanitary (SPS) measures
- rules on investment
- intellectual property rights (IPR) protection
- provisions on anti-corruption
- competition policy
- labor standards, etc.

# Content of Deep PTAs

WTO constructed a dataset on the content of preferential trade agreements by mapping a total of 52 disciplines across 100 PTAs signed between 1958 and 2011

Number of agreements including selected provisions

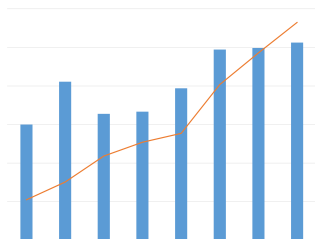
# Deep PTAs and the Internationalization of Production

The recent wave of PTAs has brought the question of how trade agreements relate to the international organization of production to the forefront of trade research and of the trade policy debate (see, among others, Lawrence (1996), Baldwin (2011) Antras and Staiger (2012) and WTO (2011))

The key insight of the theoretical literature is that the "depth" of trade agreements is associated with the international fragmentation of production

What about empirical evidence?

## O shoring and Deep PTAs



Ore ce and Rocha (2014) investigate the dual relationship between deep integration and trade in parts and components and find that:

- signing deeper trade agreements increases trade in parts and components by almost 12 percent
- higher levels of trade in production networks increases the likelihood of signing deeper agreements

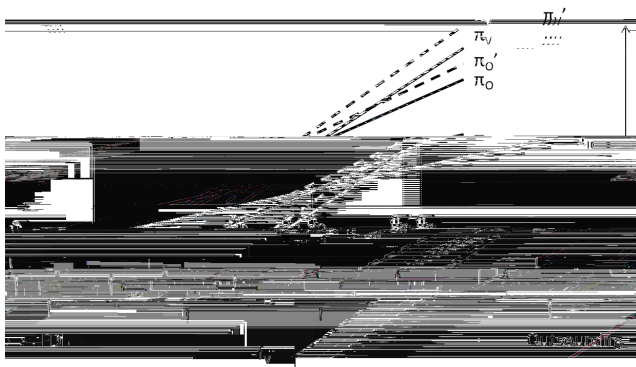
# Content of Deep PTAs and the Composition of Outsourcing

The empirical analysis on the impact of PTAs on vertical FDI is guided by the theory in Antras and Helpman (2008)

- PTA provisions improving the contractibility of components ( $\gamma_m$ ) are associated with an increase in profitability under vertical integration relative to outsourcing, leading to an increase in the share of firms engaging in FDI
- PTA provisions improving the contractibility of headquarter services ( $\gamma_h$ ) are associated with an increase in profitability under outsourcing relative to vertical integration, leading to a decrease in the share of firms engaging in FDI

# Improving the Contractibility of Components

With better contracting of components ( $m$ ), final good producers in the North are less dependent on the power of incentives they can offer to the suppliers of components in the South, thus making vertical integration more attractive



**Figure:** Effects of PTA provisions improving contractibility of components ( $m$ )



# Data on the Content of Deep PTAs

35 agreements signed by the Germany (EU), 11 by Japan, and 11 by the USA

## Depth

- number of legally enforceable provisions
- indexes from Principal Component Analysis (see Ore ce and Rocha (2014))

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## Content

-



# Econometric specifications

PTA depth and vertical FDI:

$$\begin{aligned}
 FDI_{ijkt} = & \beta_1 DEPTH_{ijt} + \beta_2 \log(Tariff)_{ijkt} + \\
 & + \beta_3 INSTITUTIONS_{jt} + \beta_4 BIT_{ijt} + \beta_5 X_{jt} + \beta_6 X_{ij} + \\
 & + \beta_7 k + \beta_8 it + \beta_9 ijkt
 \end{aligned}$$

PTA content and vertical FDI:

$$\begin{aligned}
 FDI_{ijkt} = & \beta_1 h_{ijt} + \beta_2 m_{ijt} + \beta_3 DEPTH_{ijt} + \beta_4 \log(Tariff)_{ijkt} + \\
 & + \beta_5 INSTITUTIONS_{jt} + \beta_6 BIT_{ijt} + \beta_7 X_{jt} + \beta_8 X_{ij} + \\
 & + \beta_9 k + \beta_{10} it + \beta_{11} ijkt
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 \end{aligned}$$



# Conclusion

The theoretical and empirical literature explores the relationship between deep trade agreements and the international organization of production

- Deep trade agreements are associated to fragmentation of production and more trade in parts and components

We add to this line of work by showing that the content rather than the depth of PTAs matters for the way goods are traded internationally -i.e. within- rms (FDI) or at arm's length

- PTA provisions that improve the contractibility of components ( $c_m$ ) relative to headquarter services ( $c_h$ ) are associated to more vertical FDI

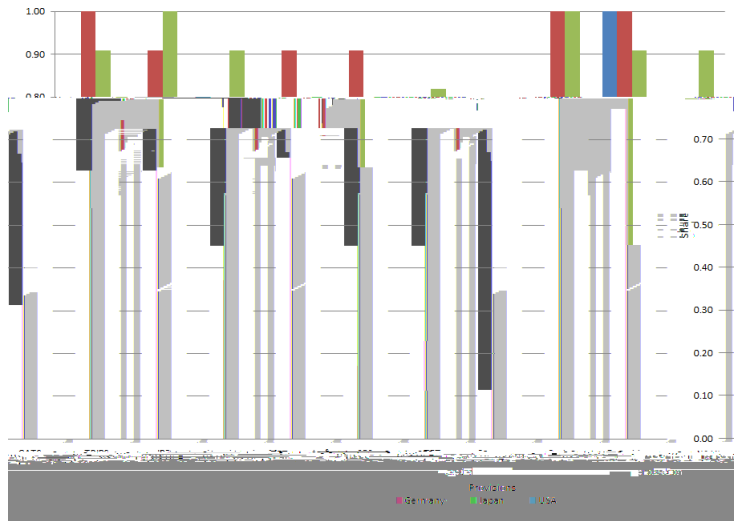


Figure: Frequency of  $h$  and  $m$  provisions in trade agreements by country







# IV results

Table: Vertical FDI and Deep Integration - IV

		FDI (log of revenues in 1000 )		
	Depth		Content	
	(1)	(2)	(3)	(4)