Regulatory Comparative Advantage
The case of Services

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Outline

- Motivation & Previous literature
  - Services trade literature, incl. political economy
  - Empirical trade: source of comparative advantage

- Methodology
  - How to measure comparative advantage?
  - Source of CA: strength of regulatory institutions

- Data, results and policy discussion

Motivation

- Services entail lots of regulatory policies
  - Dealing with so-called market failures

- Regulatory policies cover many issue areas
  - Monopolies, procedures, certificates, etc.
  - Requires sector knowledge, skills, expertise
  - Source of comparative advantage?

- Recent measures of comparative advantage
  - Does a strong regulatory body form CA in trade?
  - If so, felt stronger in industries depending on efficient services delivery
 - Policy: regulatory bodies "guiding" services liberalization

Previous literature

- Many papers focus on regulation and services trade
  - Domestic regulation [PMR]; Trade barriers [STRI]
  - Kox & Nordas (2007); Marel & Shepherd (2013a)

- Political economy of services: regulatory bodies
  - Messerlin and Hoekman (2000), Hoekman et al. (2007)

- Sources of comparative advantage in goods and services
  - Romalis (2004); Costinot (2009); Chor (2011)
  - In services: van der Marel & Shepherd (2013)

- Make use of country and sector-level information
  - Country ``endowments'' interacted with sector-intensities

This paper

- Exploits the idea of strong institutions
  - Industries dependent on services inputs
  - Requires efficient liberalization & competition
  - Strong regulatory institutions task to deliver

- Liberalization necessary, not sufficient condition
  - Francois and Wooton (2000): market structure & competition
  - Fink et al. (2002): sequencing of reforms

- Can be measured by recent CA approach
  - Regulatory governance, regulatory capacity (Roy, 2010)
  - Determinant for higher productivity in (goods) trade

STRI vs Regulatory quality
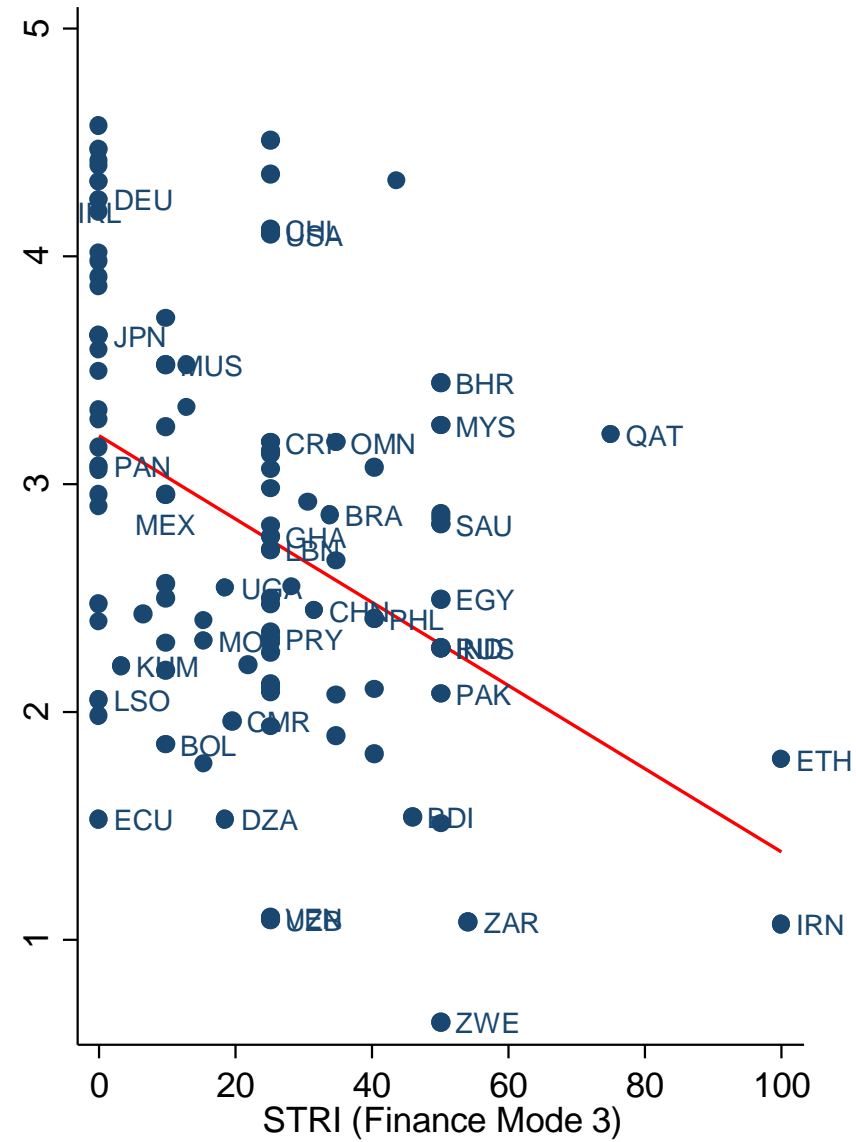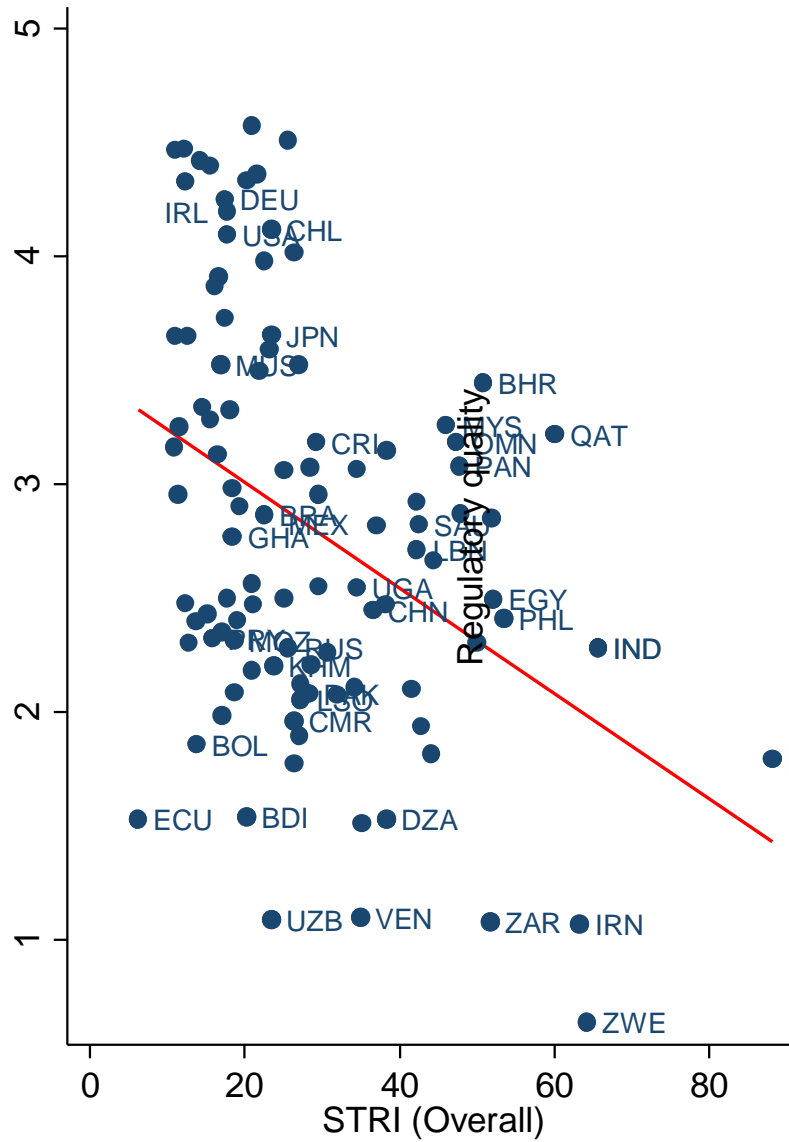
Methodology

- **Sector-level**: Measuring downstream effects of services as inputs
- So-called services dependency index (SDI) for industries

- Index has two components for each industry (*i*) using five services (*s*):

$$SDI_i = \sum_s \theta_{is} \cdot level\ of\ regulation_s$$

- (1) Services input use; (2) sourced from competitive markets
- (1) BEA US I/O Use Tables; (2) STRI world average (highly correlated)

Services Dependency Index

Table 2: Ranking of RI index with industry description

ISIC code	Industry Description	SDI index	Share services inputs
18	Wearing apparel; fur	0.840	0.086
30	Office and computing machinery	0.838	0.128
19	Leather products	0.829	0.132
17	Textiles	0.829	0.107
15	Food products and beverages	0.820	0.143
26	Other non-metallic mineral products	0.537	0.131
37	Recycling	0.605	0.206
24	Chemicals & chemical products	0.641	0.104
23	Coke, refined petroleum products	0.724	0.092
16	Tobacco products	0.726	0.080

Source: own calculations using BEA US input-output use tables and World Bank STRI.
Note: the services input use is for the five sectors selected as described in section 3.

Regulatory Comparative Advantage

- **Country-level**: strength of regulatory bodies or institutions
  - Messerlin and Hoekman: "re-regulation" next to de-regulation
  - Hoekman et al. (2007) "regulatory governance"

- Roy (2010) "regulatory capacity"
  (a) Assess impact and implications when liberalizing
  (b) Capacity to address regulatory responses / implement compl. policies

- Molinuevo and Saez (2014)
  (1) Clear mandate to serve independently
  (2) Strong capacity / technical know-how / to regulate
  (3) Strong financial base to actually regulate

Regulatory Comparative Advantage

- Focus on goods trade (CHELEM) as services are inputs
- Multiplicative form of comparative advantage, cross-country:

$$X_{odi} = G_{od} + RI_i * BQ_o + SEC_i * COU_o + \delta_o + \gamma_{di} + \varepsilon_{odi}$$

- Corrected for 'gravity'
- Sector-country control variables, plus usual fixed effects

	(1) Goods EXP	(2) Goods EXP	(3) Goods EXP	(4) Goods EXP	(5) Goods EXP
SDI * BQ	0.0589*** (0.00826)			0.0726*** (0.0166)	0.0778*** (0.0164)
SDI * RQ		0.0355*** (0.00829)		-0.0903*** (0.0187)	-0.0183 (0.0207)
SDI * LEGAL			0.0130* (0.00783)	0.0336* (0.0182)	0.00864 (0.0184)
SDI * ln(H/L)					-0.0976*** (0.00925)
SDI * ln(K/L)					0.0270*** (0.00713)
FE Exporter			Yes		
FE Importer-sector			Yes		
Gravity			Yes		
Observations	96,312	96,667	95,468	91,961	89,331
R-squared	0.652	0.651	0.656	0.657	0.658
RMSE	2.308	2.320	2.293	2.285	2.269

	(1) Goods EXP	(2) Goods EXP	(3) Goods EXP	(4) Goods EXP	(5) Goods EXP
RI * BQ	0.0589*** (0.00826)	0.249*** (0.0136)	0.0718*** (0.00849)	-0.0103 (0.0141)	0.0988*** (0.0155)
RI * ln(GDPpc)		-0.230*** (0.0128)			-0.203*** (0.0140)
ln(hs) * ln(H/L)			0.269*** (0.00875)	0.265*** (0.00872)	0.252*** (0.00884)
ln(cs) * ln(K/L)			0.107*** (0.00906)	0.103*** (0.00900)	0.0977*** (0.00901)
HI * LEGAL				0.0903*** (0.0141)	0.182*** (0.0149)
FE Exporter			Yes		
FE Importer-sector			Yes		
Gravity			Yes		
Observations	96,312	94,736	92,045	90,907	89,331
R-squared	0.652	0.653	0.662	0.664	0.664
RMSE	2.308	2.307	2.258	2.248	2.248

Estimated Trade Effects
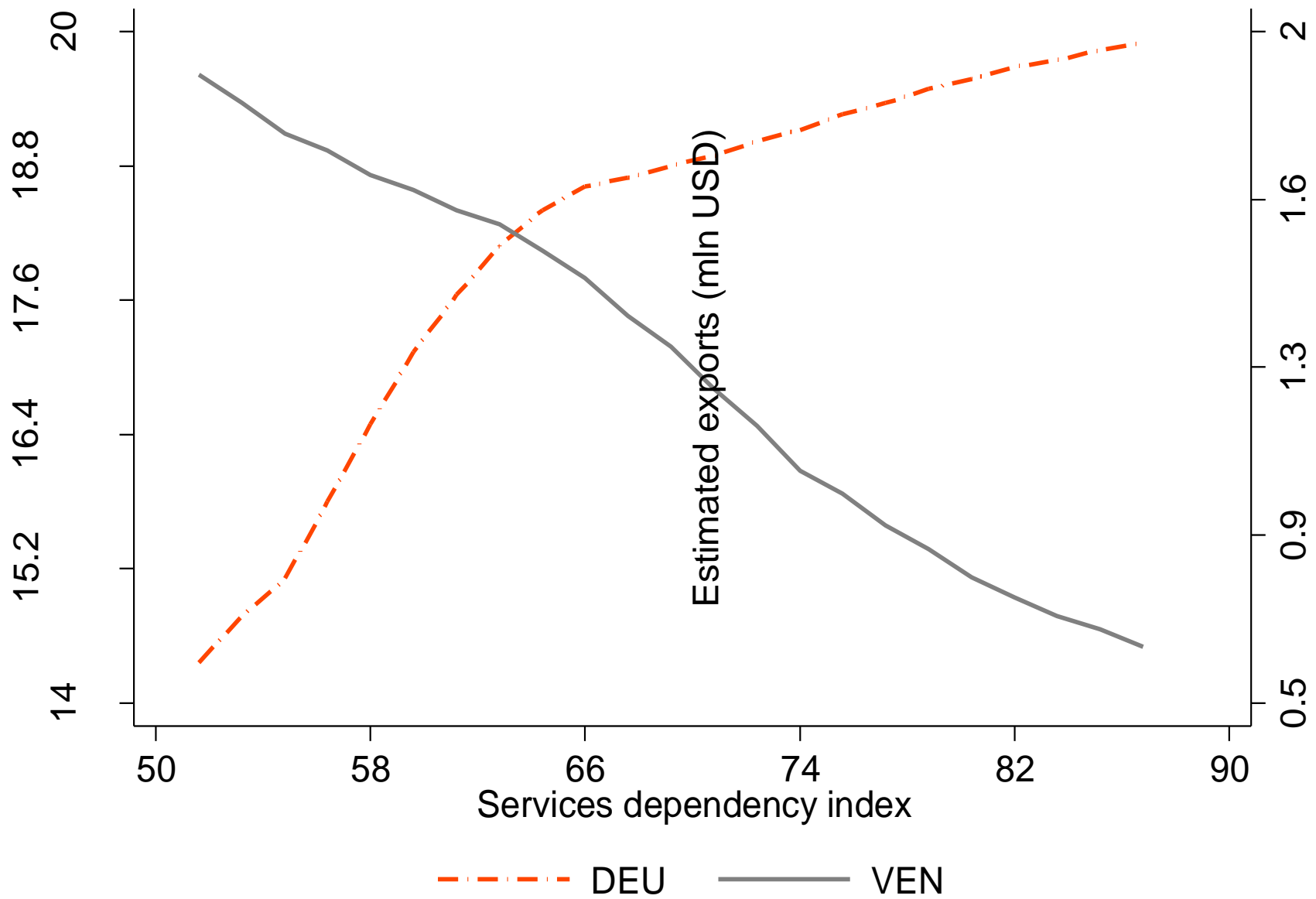
Policy implications

- Set-up of regulatory bodies
  - Examples: Australian Productivity Commission, National Competition Authorities, sector-specific financial regulatory agencies
  - Equipped with information, resources and insulated from pol. ec.
  - Fashion good practises to deal with market failures during liberalization

- Existing literature classifies three main priorities:
  - Detect and classify the various services barriers
  - Design of appropriate complementary regulatory policies
  - Implementation and enforcement of these policies