

New World Bank/WTO Services Trade Policy Database

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World Bank STRI

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WTO “Simply Services”

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Background

- Growing demand for information on trade in services, in particular on actual regulations and policies (advance national policy reform, inform international negotiations, transparency on applied services policies)
- Prior initiatives at WTO Secretariat and World Bank
 - WTO: GATS commitments database, services statistics, RTAs database (1995-)
 - WB: 2012 Services Trade Restrictions Database (STRD)
- 2013: WTO-WB join forces (MoU)
Services Integrated Trade Information Portal (I-TIP services)
- 2016: Enhanced cooperation with OECD which released its own STRI and regulatory database in 2014



Agenda

- 1) Services Trade Policy Database
- 2) Quantification of restrictiveness
- 3) Some Patterns of Service Trade Policy by Mode of Supply
- 4) Services Policy Changes and Trade Costs
 - ▶ Cross-modal policy impact on services trade
 - ▶ Trade cost effects (AVE) of past policy changes

Welcome to


SERVICES
SERVICES
SERVICIOS

I-TIP Services is a joint initiative of the World Trade Organization and the World Bank. It is a set of linked databases that provides information on Members' commitments under the WTO's General Agreement on Trade in Services (GATS), services commitments in regional trade agreements (RTA), applied measures in services, and services statistics.

GATS

This module contains information on Member's market access commitments and exemptions to the Most Favoured Nation (MFN) obligation. It also includes the preferential market access commitments for least-developed countries granted by WTO Members under the LDC Services Waiver ([see list of notifying Members](#)). The latter feature of I-TIP was developed in cooperation with the International Trade Centre (ITC).

Regional Trade Agreements

The RTA module allows to access and search for information on Members' commitments in regional trade agreements notified under Article V of the GATS. Currently the database covers a good proportion of services RTAs ([see list attached](#)).

Services Trade Policy Database

The Applied Services Trade Policy module provides information jointly compiled by the World Bank and the WTO on services regulatory frameworks. Currently, the database covers 23 service sectors in 68 Members. The information for 25 of those Members was collected in 2016-2017 through a survey conducted by the World Bank and the WTO. The information for the remaining 43 Members was mainly sourced from the [OECD STR regulatory database \(2016 version\)](#), thanks to the co-operation of the OECD, which is gratefully acknowledged. Links to other useful

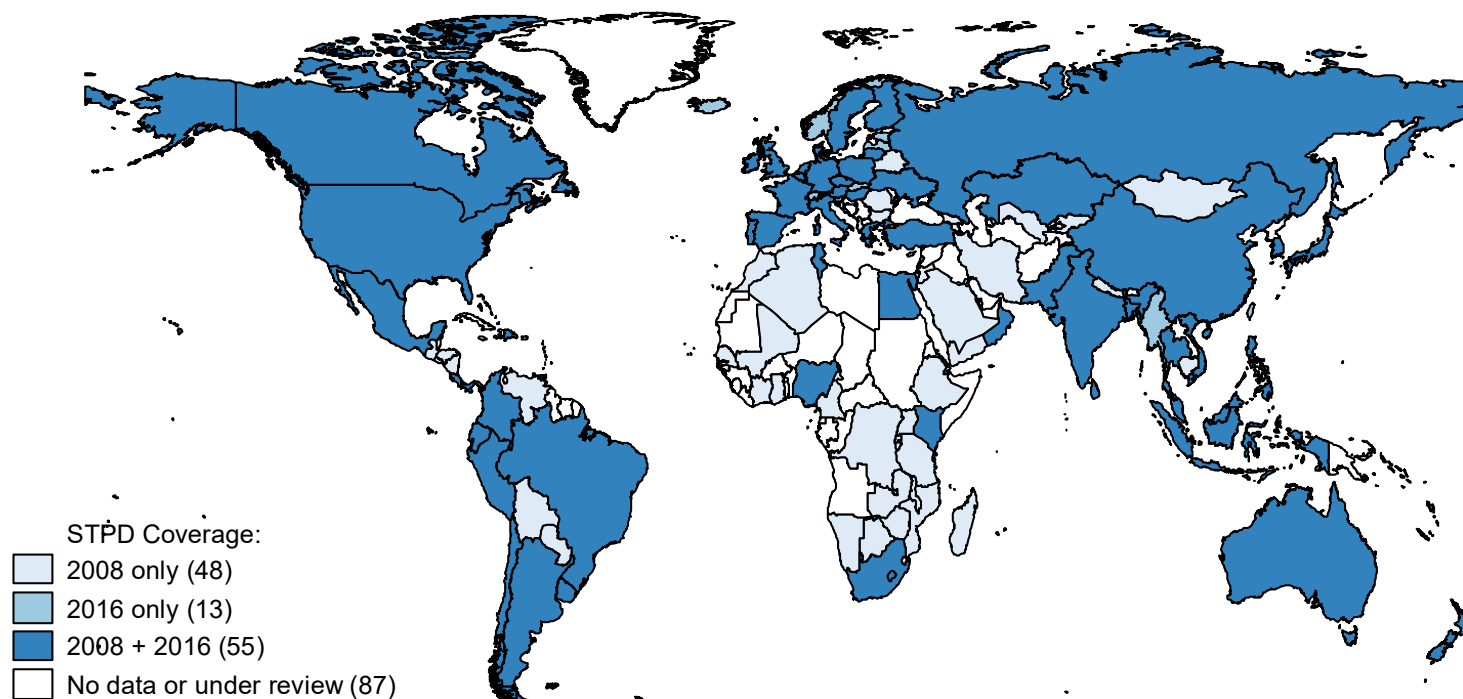


Statistics

The Services Statistics module accompanies the GATS, RTA and Applied regimes modules by providing relevant trade in services and related statistics.

<http://i-tip.wto.org/services>

Coverage: 116 economies in total



Data collection:

- ⇒ 25 non-OECD economies: 23 sector-specific questionnaires, each encompassing >150 questions, filled by local law firms for 2016
- ⇒ 43 economies sourced from **OECD STRI Regulatory Database** for 2016, thanks to co-operation from the OECD, which is gratefully acknowledged (OECD members, BRIICS, Colombia)
- ⇒ Coverage being expanded (CEFTA economies, Jordan, 15 African countries)

Coverage: sectors and modes

Services Trade Policy Database

Sectors	Subsectors	Mode 1	Mode 3	Mode 4
Financial	Commercial banking (deposit-taking, lending)	X	X	X
	Non-life insurance (incl. MAT)	X	X	X
	Life Insurance	X	X	X
	Reinsurance	X	X	X
Telecom	Telecom fixed (international and local)		X	X
	Telecom mobile		X	X
	Internet		X	X
Distribution	Retailing services	X	X	X
	Wholesale trade services	X	X	X
Transportation	Air passenger domestic and international		X	X
	Air freight domestic and international		X	X
	Maritime shipping international	X	X	X
	Maritime auxiliary (intermed., other services)	X	X	X
	Road freight domestic and international	X	X	X
	Rail freight domestic and international	X	X	X
Professional	Accounting	X	X	X
	Auditing	X	X	X
	Legal advice domestic law		X	X
	Legal representation on domestic law		X	X
	Legal advice foreign law	X	X	X



WTO-WB Classification of Measures (1/2)

Consistent with previous WB classification and current OECD classification

A. Conditions on market entry

- A.1 Forms of entry (including foreign equity limits)
- A.2 Quantitative measures (for firms and natural persons)
- A.3 Conditions on licensing/screening/qualifications relating to market entry (firms /natural persons)
- A.4 Other conditions on market entry

B. Conditions on operations

- B.1 Conditions on supply of services
- B.2 Conditions on services supplier
- B.3 Conditions on government procurement
- B.4 Other conditions on operations



WTO-WB Classification of Measures (2/2)

C. Measures affecting competition

- C.1 Conditions on conduct by firms
- C.2 Governmental rights/prerogatives (including public ownership)
- C.3 Other measures affecting competition

D. Admin. procedures, regulatory transparency

- D.1 Administrative procedures
- D.2 Regulatory transparency (including licensing)
- D.3 Nature of regulatory authority (related to nature of regulator)
- D.4 International standards
- D.5 Other regulatory environment and admin. procedures

E. Miscellaneous

Coverage: sectors and modes

Services Trade Policy Database

Representation of Modes of Supply (e.g. category A.2)

Measure		M1	M3	M4
A.	Conditions on market entry			
2.	Quantitative and administrative conditions			
	Demonstration of unavailability of service required	x	x	x
	Limits on the total number of suppliers/licences (numerical) or monopoly		x	x
	Service provision is reserved for statutory monopoly or granted on an exclusive basis		x	
	Limit on total number of suppliers (numerical) - large stores		x	
	Limits on total number of suppliers (numerical) - other store formats		x	
	ENT on number of suppliers (including if implemented through licensing process)		x	x
	ENT on number of supplier - large stores		x	
	ENT on number of supplier - other formats		x	
	Quota - Contractual service supplier			x
	Quota - Independent Professionals			x
	Quota - Intra-Corporate Transferees			x
	ENT/LMT - Contractual service supplier			x
	ENT/LMT - Independent professionals			x
	ENT/LMT - Intra-Corporate Transferees			x
	Limit on number of foreigners employed per company			x
	Limit on share of foreigners employed in the domestic economy	x	x	x
	Local data storage precondition to supply services	x	x	x



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Quantifying Policy Restrictiveness

- ▶ Approach to quantification as in 2008 WB STRI maintained, with improvements regarding **reproducibility** and **consistent aggregation**
- ▶ Principal steps: **Scoring** and **Aggregation**
 1. Selection of key policy measures
(comparability with OECD and WB 2008)
 2. Assignment of basic scores reflecting level of restrictiveness
(mindful of relationship across certain measures)
 3. Aggregation of subsector-mode scores through multiple nests

$$\text{STRI}^k = \left(\sum_{i=1}^N (m_i^{(k)})^{\rho_k} \right)^{1/\rho_k}$$

4. Aggregation to country level using value-added weights

Scoring

Examples of measures, level of restriction and associated score

Level of restriction	Examples	Score
Not restrictive	No restriction on the type of legal entity, no foreign equity limitation	0
Not restrictive, but minimal transparency issue	No provision for prior notice of, or comment on, regulatory changes	0.125
Minor restriction	Acquisition of land and real estate by foreigners prohibited	0.25
Neither minor nor major	Limit on number of suppliers	0.5
Major restriction	Service provision is reserved for statutory monopoly or granted on an exclusive basis	0.75
Closed	Commercial presence is prohibited	1

Aggregation (1/2)

Properties of Constant Elasticity of Substitution (CES)-type aggregation:

- ▶ Example: $\rho = 3$

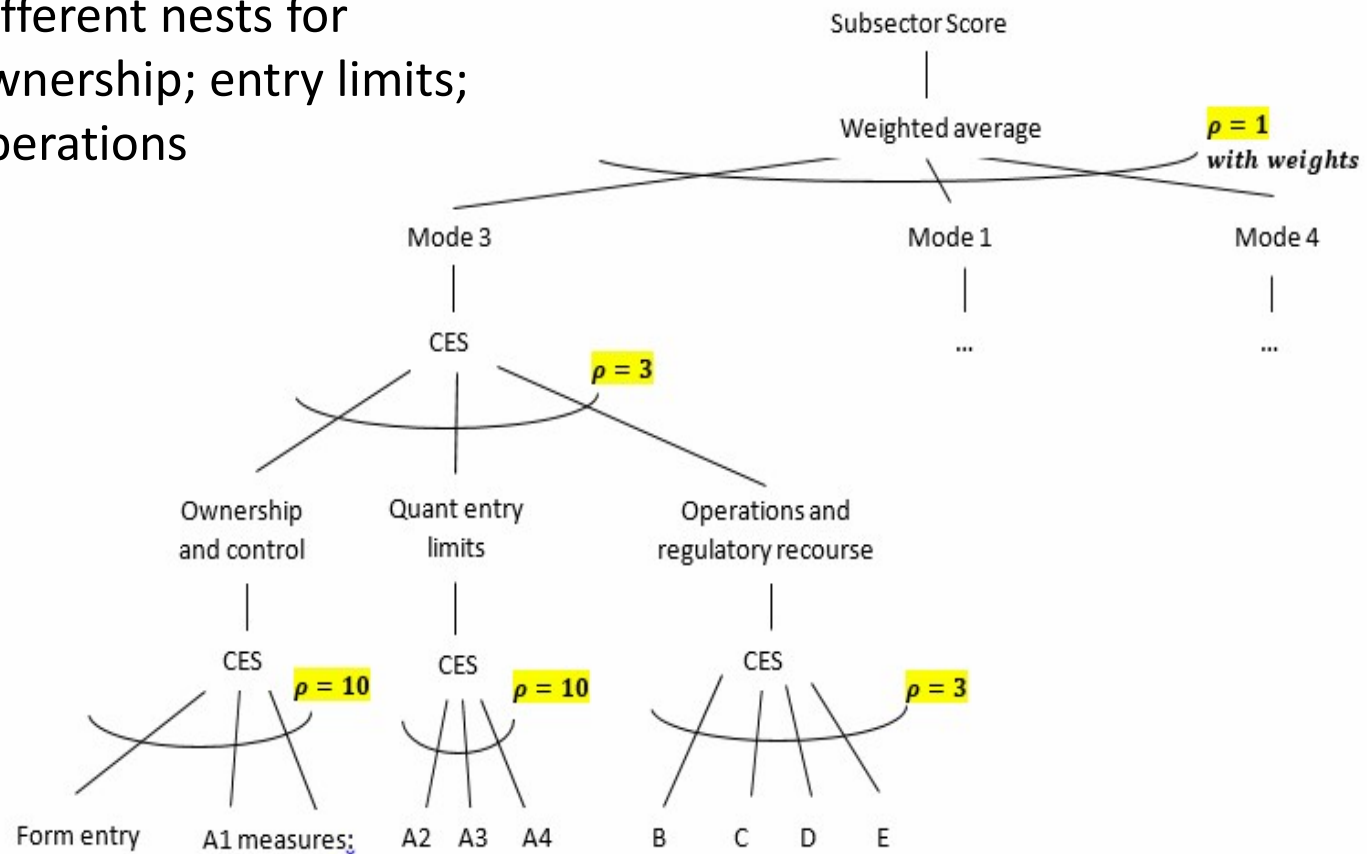
$$\text{STRI}^k = \left(\sum_{i=1}^N (m_i^{(k)})^{\rho_k} \right)^{1/\rho_k}$$

Set of scores (m_i)	Increm. change	Aggreg. index	Comment
0.00 + 0.00 + 0.50	0.50	0.50	Aggregate STRI independent from number of measures <i>not applied</i> .
0.50 + 0.50	0.13	0.63	Increasing restrictiveness at decreasing rate.
0.50 + 0.50 + 0.50	0.09	0.72	Marginal contribution of measures is falling; Three such restrictions roughly equivalent to one very restrictive measure.
0.25 + 0.25 + 0.50	0.22	0.54	Marginal contribution to restrictiveness depends on set of applied measures.

Aggregation (2/2)

Details on Steps 3 and 4: multi-layered aggregation

- Different nests for ownership; entry limits; operations



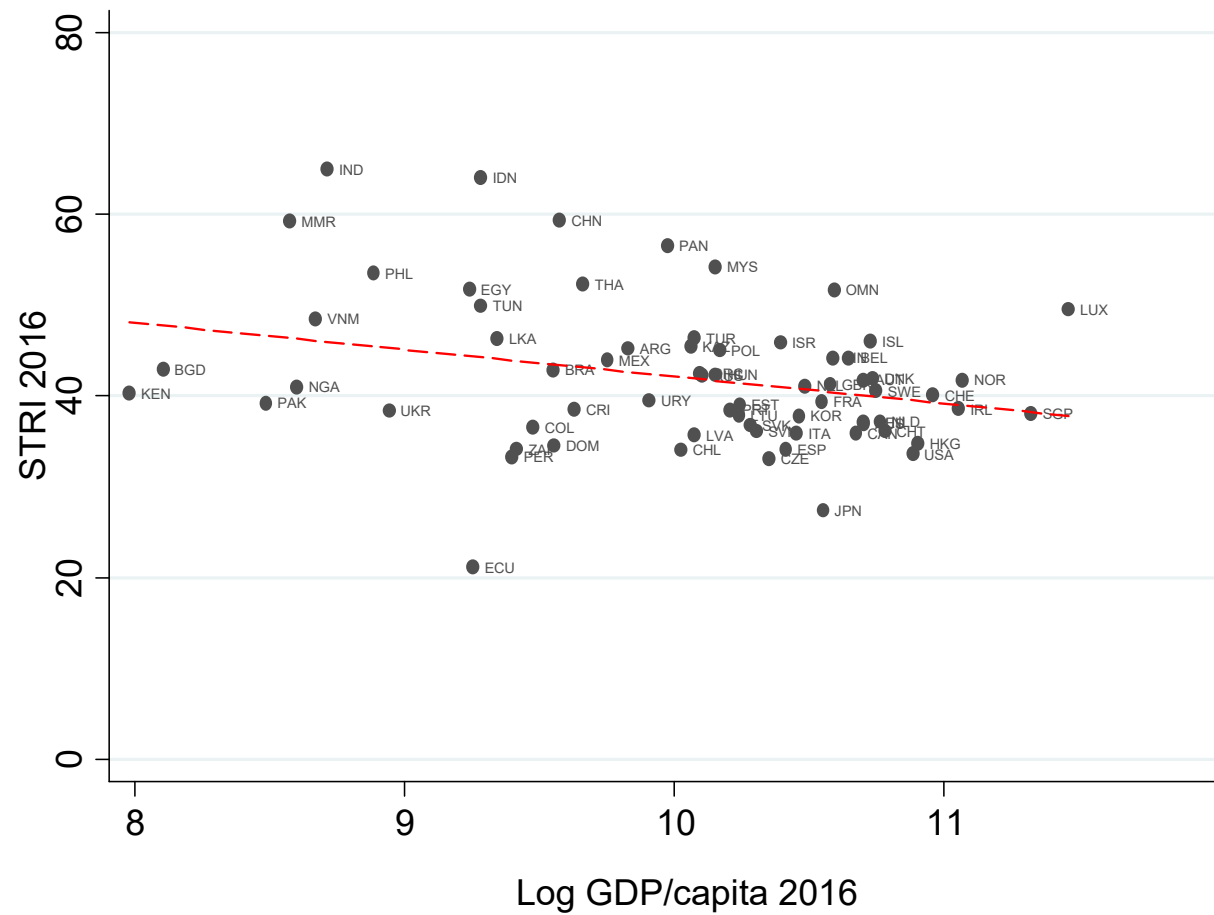


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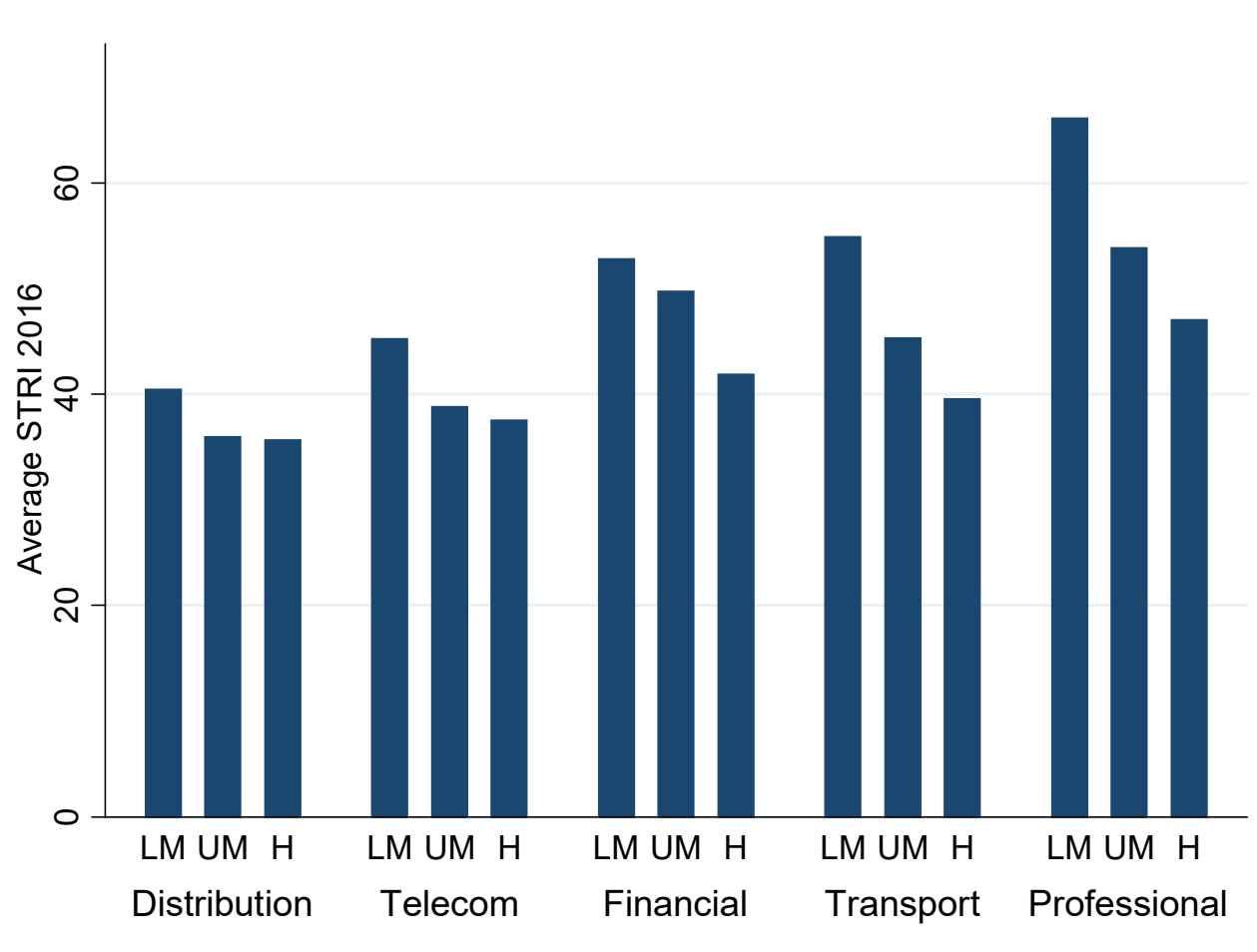
Services trade policy in 2016

- overall level of restrictiveness -



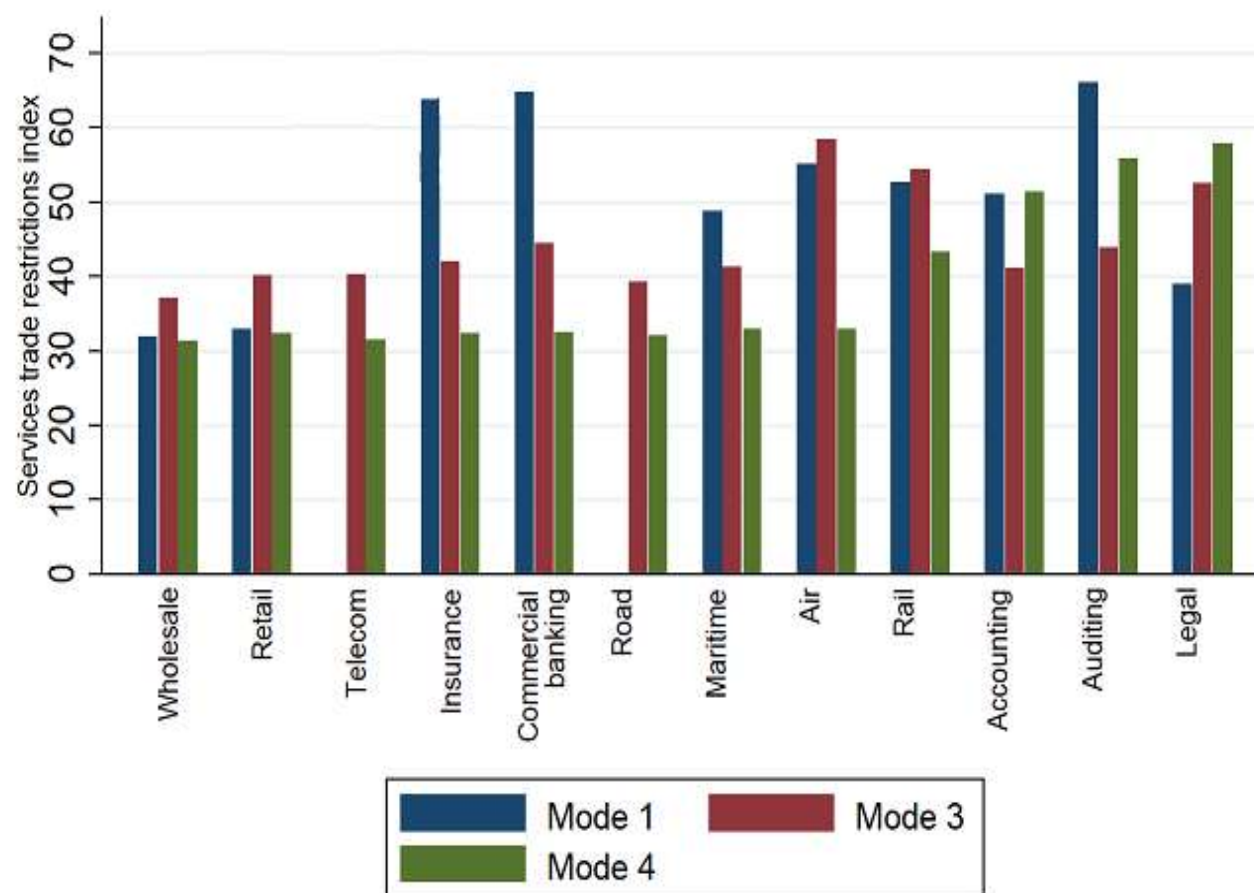
Services trade policy in 2016

- restrictiveness by sector and level of development -



Services trade policy in 2016

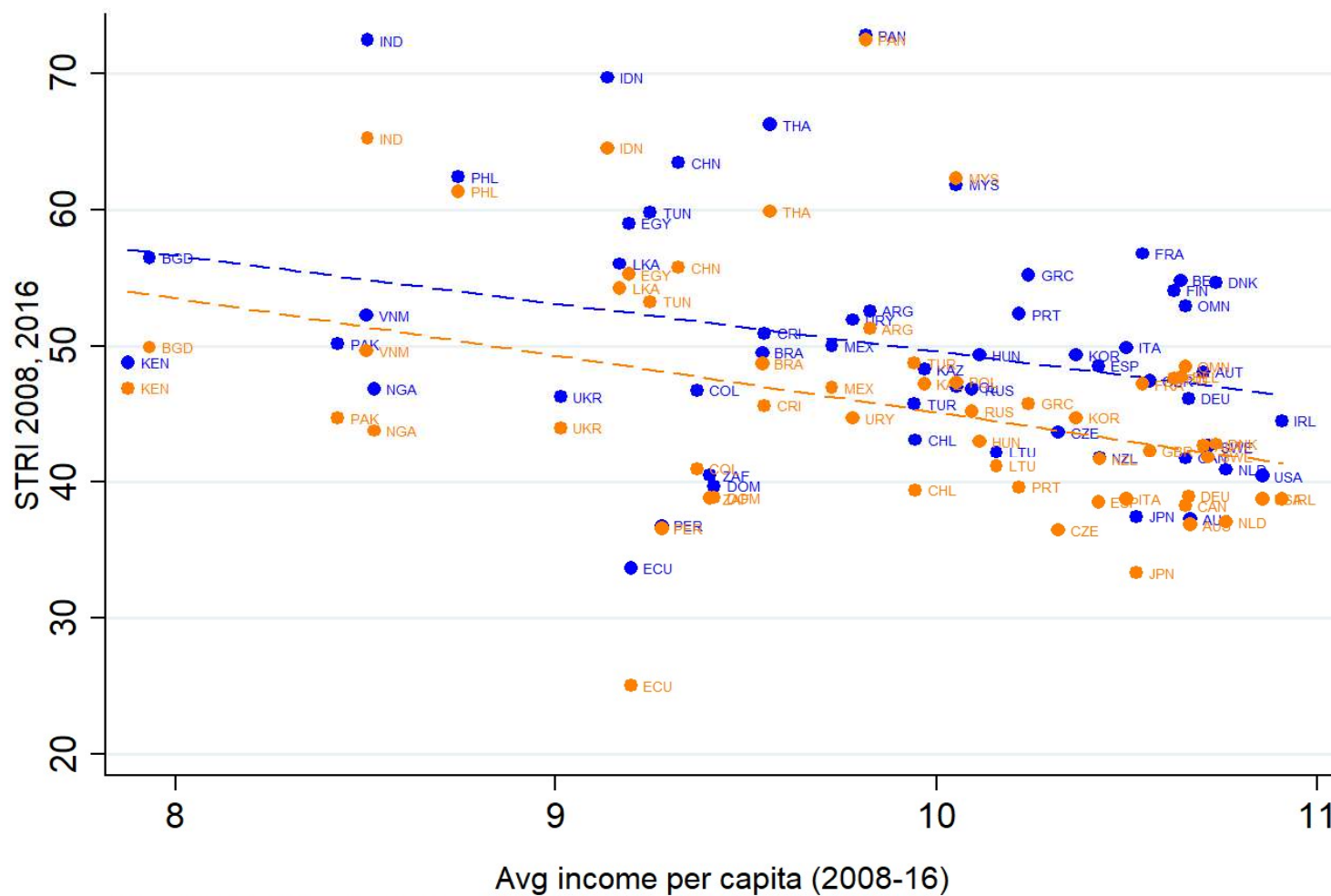
- restrictiveness across modes of supply -



Notes: Mode 1 is not computed for Road, Telecom, Maritime cargo-handling, storage, etc., Legal host country advisory and representation services. Mode 4 primarily reflects entry barriers such as quantity restrictions and labour market tests for the supply of services by natural persons - especially with respect to intra-corporate transferees (ICT).

Evolution of services trade policy

- 2008 vs 2016 -



Evolution of services trade policy

- change in STRI by sector and income group -

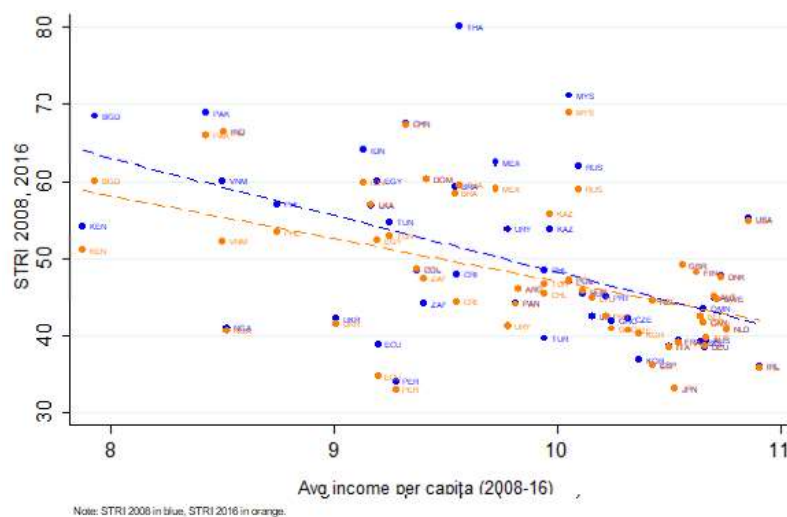
Sector	Income Group			
	Low	Lower Mid	Upper Mid	High
Distribution	-1.69	-4.45	0.24	-2.78
Financial	-6.42	-3.84	-0.90	-0.02
Telecom	-10.05	-1.68	-1.36	-3.21
Professional	-1.89	-6.31	-5.14	-8.06
Transport	-1.76	-7.87	-3.07	-22.37

*Notes: Subsectors aggregated into the five broad services sectors displayed in column 1.
Colour coding: deep green: <-5 STRI-points; light green: (-5, -1); grey: (-1, 1). Grey shading indicates that policy restrictiveness has remained qualitatively unchanged.*

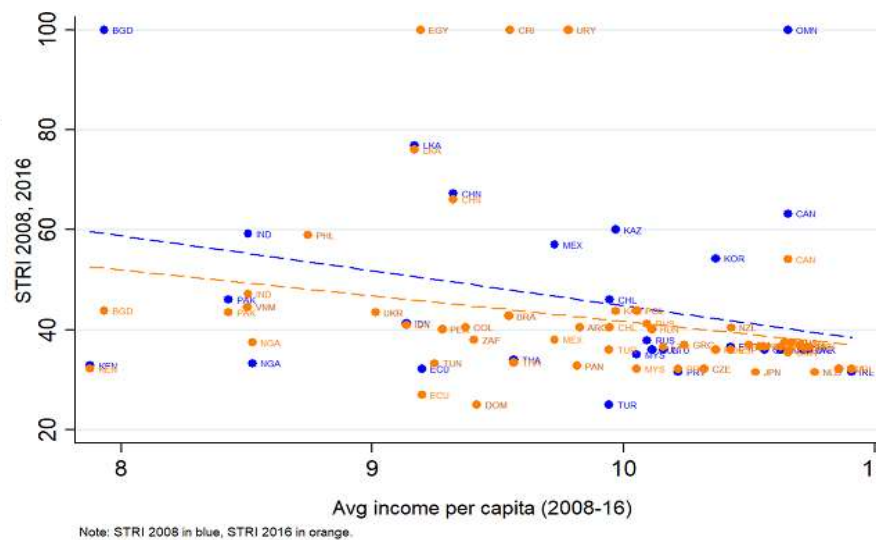
Evolution of services trade policy

- Further liberalization and policy convergence -

Financial sectors

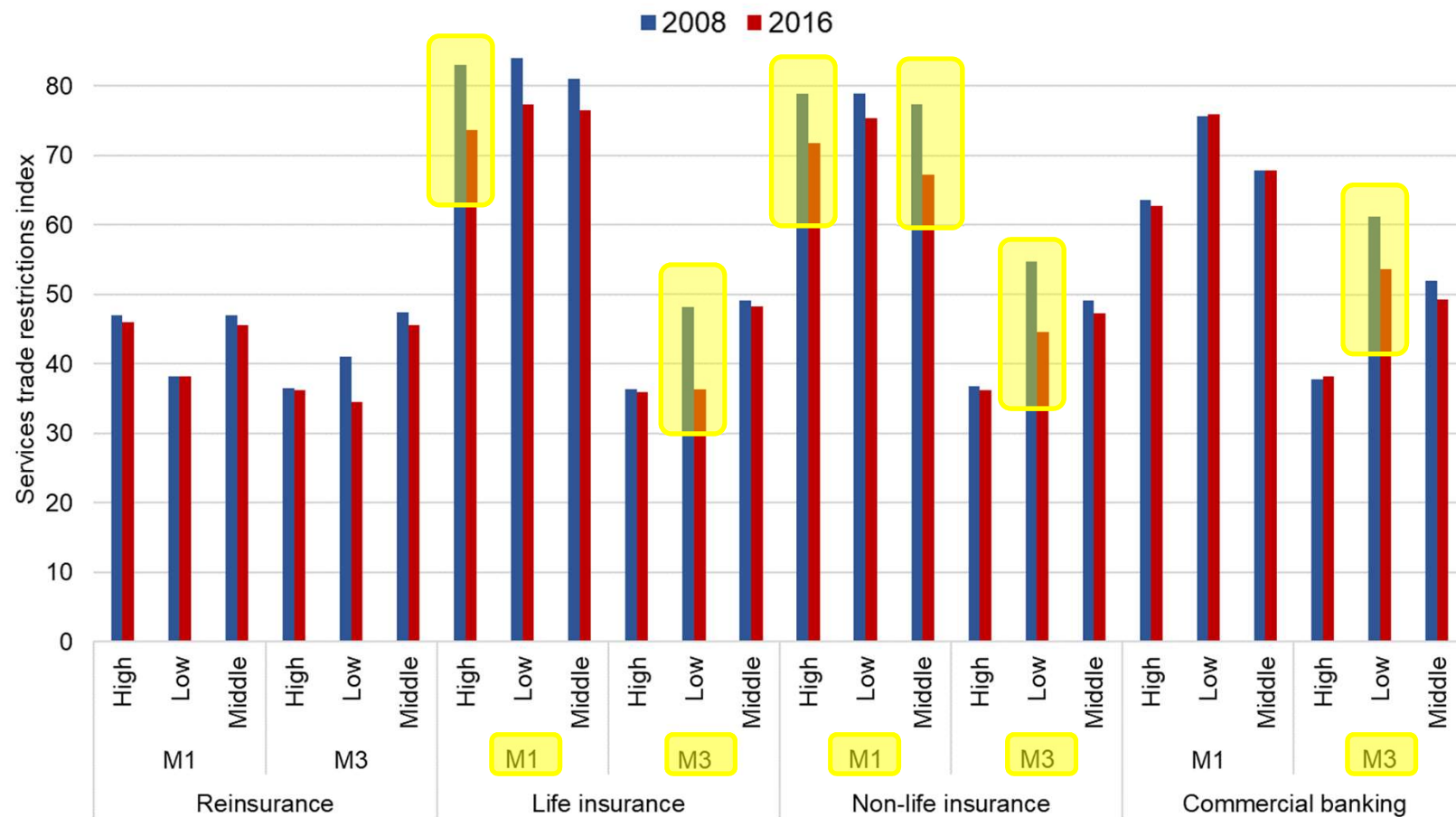


Fixed-line telecoms



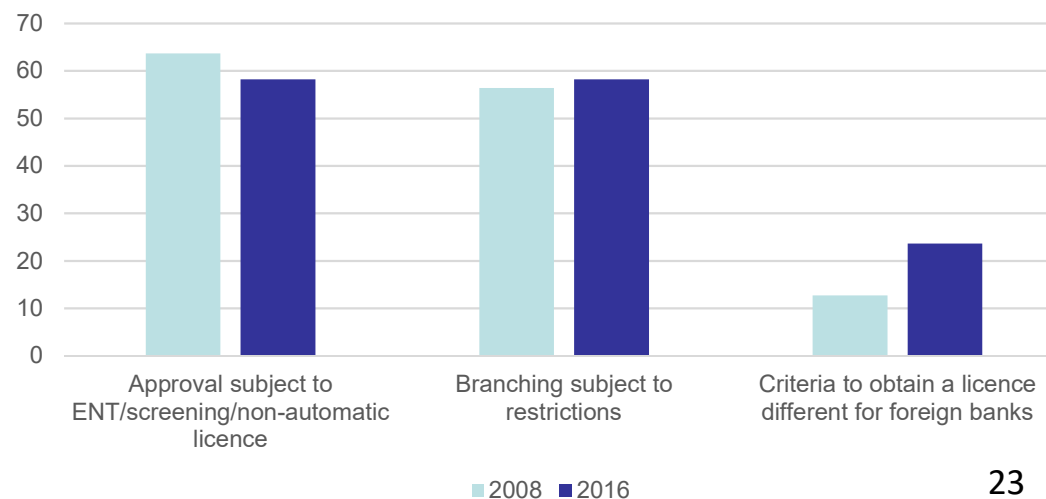
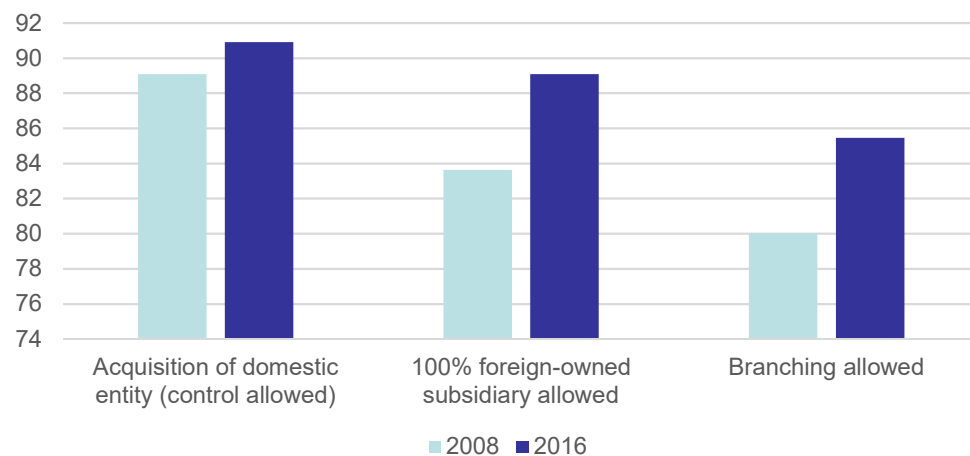
Financial services

- modal variation across sectors -



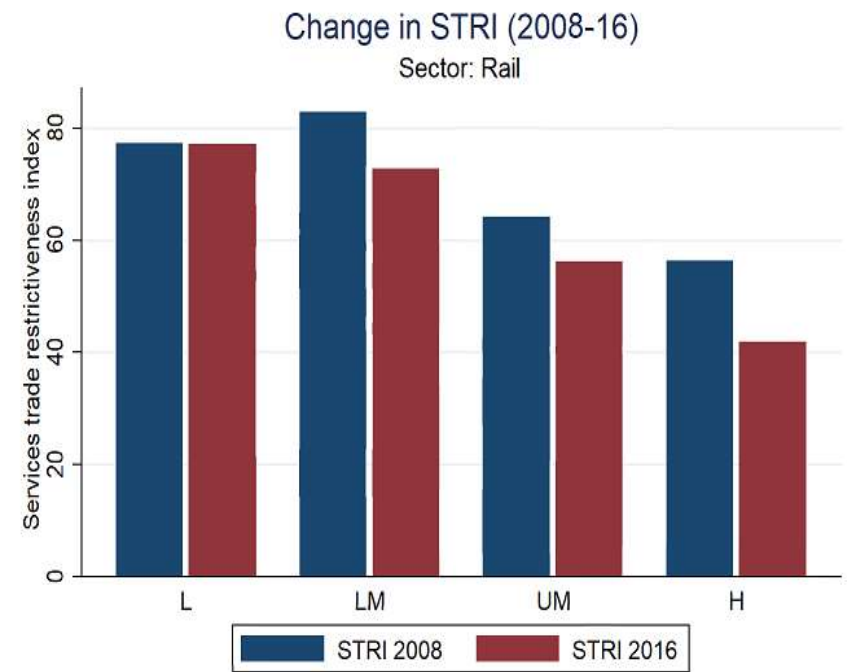
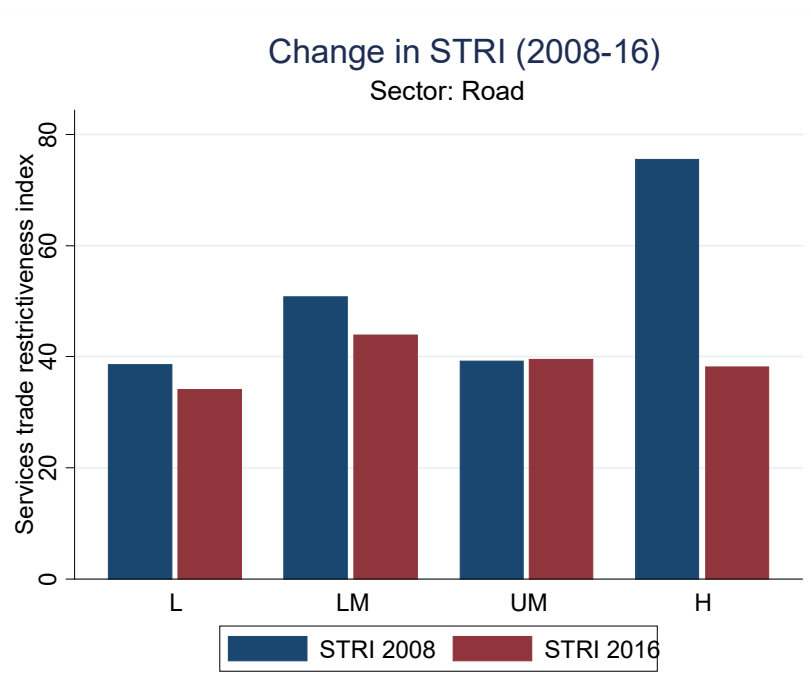
Financial services

- Openness subject to regulatory scrutiny -



Land transport

- Advanced economies break new ground -







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Services Trade Costs and Policy Reform

How do applied policies matter for services trade?

1. Cross-modal impact of applied policies
 2. Impact on variable trade costs
- ▶ Structural gravity framework
 - ⇒ Ability to estimate MFN-type STRI policies
 - ⇒ **Impact of STRI on the border friction** can be identified
 - ⇒ Trade-off: data demands vs consistent estimation of well-defined quantities
 - ⇒ different approach compared eg. to Miroudot/Sauvage/Shepherd (2013);
 - ⇒ trade cost estimates / AVEs not comparable
 - ▶ Estimable gravity equation:

$$V_{ij} = \exp\{-\theta \ln(1 + t_{ij}) - \theta \ln \tau_{ij} + \ln \eta_i + \ln v_j\} + \varepsilon_{ij}$$

$$E[\ln \tau_{ij} | X_{ij}] = \frac{\beta' C_{ij} + \dots + \gamma_1 BRDR_{ij} + \gamma_2 (BRDR_{ij} \times \ln STRI_j)}{-\theta}$$



Services Trade Costs and Policy Reform

How do applied policies matter for services trade?

- ▶ Linking 4 different data sources:
 1. WTO-UNCTAD-ITC Annual trade in services dataset; various procedures to maximise coverage
 2. Gross Output from UN SNA; augmented from OECD IO tables so as to cover 66 economies
 3. Comprehensive set of gravity variables (CEPII GeoDist)
 4. STRI 2016 scores
- ▶ Dimensions of the dataset:
 - ▶ 5 services sectors: Transportation, Insurance, Financial, Information/Communication, Professional services
 - ▶ 66 economies
 - ▶ EBOPS-ISIC bridge table developed by WTO
- ▶ PPML estimation with full sets of exporter-/importer fixed effects

Services Trade Costs and Policy Reform

Cross-modal effects of policy restrictiveness

	Transport		Insurance		Finance	
	(1)	(2)	(3)	(4)	(5)	(6)
Log Distance	-0.1502 ** (0.059)	-0.1404 ** (0.062)	-0.5734 *** (0.194)	-0.6713 *** (0.225)	-0.1670 (0.102)	-0.1884 * (0.105)
Contiguity	0.5510 *** (0.136)	0.5348 *** (0.139)	-0.2533 (0.393)	-0.2446 (0.393)	-0.1913 (0.225)	-0.0966 (0.224)
Common Language	0.8518 *** (0.107)	0.6852 *** (0.113)	1.2677 *** (0.284)	1.1631 *** (0.292)	1.3286 *** (0.152)	1.2359 *** (0.154)
Time difference	-0.0373 ** (0.018)	-0.0429 ** (0.018)	0.0450 (0.055)	0.0628 (0.059)	0.0118 (0.030)	0.0185 (0.031)
FTA	0.1349 (0.123)	0.2172 * (0.127)	0.2210 (0.374)	0.2949 (0.383)	0.1588 (0.204)	0.0933 (0.213)
Intra-EU trade	0.6372 *** (0.145)	0.8822 *** (0.154)	1.3167 *** (0.423)	1.3791 *** (0.431)	1.0718 *** (0.260)	1.0511 *** (0.259)
Border	7.2007 *** (1.341)	7.6531 *** (1.450)	0.7293 (2.924)	-3.7706 (3.416)	-3.8936 * (2.189)	-0.7271 (2.160)
Border x STRI (Aggr)	-2.8312 *** (0.364)		-1.3652 * (0.782)		0.0949 (0.583)	
Border x STRI (Mode 1)		-0.7490 *** (0.216)		0.6202 (0.933)		-0.5082 * (0.293)
Border x STRI (Mode 3)		-2.3003 *** (0.493)		-0.9217 ** (0.418)		-0.5683 (0.485)
Border x STRI (Mode 4)		0.1133 * (0.060)		0.0932 (0.150)		0.4482 *** (0.103)
Observations	2507	2507	2172	2172	2185	2185
Log-likelihood	-1134.67	-1112.70	-350.04	-348.97	-605.83	-594.24

Services Trade Costs and Policy Reform

Cross-modal effects of policy restrictiveness

	Information/Communication		Professional Services		
	(7)	(8)	(9)	(10)	(11)
Log Distance	-0.5504 *** (0.098)	-0.6164 *** (0.100)	-0.1150 ** (0.056)	-0.1660 *** (0.054)	0.0433 (0.059)
Contiguity	0.0391 (0.200)	0.0668 (0.202)	0.3651 *** (0.124)	0.3357 *** (0.123)	0.4738 *** (0.125)
Common Language	0.7545 *** (0.151)	0.6087 *** (0.154)	0.9110 *** (0.089)	0.9376 *** (0.089)	0.9101 *** (0.088)
Time difference	0.0487 * (0.028)	0.0546 * (0.028)	0.0053 (0.018)	0.0223 (0.017)	-0.0501 *** (0.019)
FTA	0.5109 *** (0.187)	0.5519 *** (0.191)	0.2112 * (0.108)	0.2874 *** (0.108)	0.1890 * (0.109)
Intra-EU trade	1.2888 *** (0.227)	1.3338 *** (0.227)	0.8032 *** (0.132)	0.9079 *** (0.136)	1.0929 *** (0.140)
Border	0.2495 (2.124)	3.0213 (2.097)	-0.6820 (0.965)	-2.0127 ** (0.966)	-4.9720 *** (1.070)
Border x STRI (Aggr)	-1.0326 * (0.590)		-0.7372 *** (0.257)		
Border x STRI (Mode 1)					-0.5113 *** (0.056)
Border x STRI (Mode 3)		-2.0688 *** (0.575)		0.3096 (0.216)	0.1684 (0.214)
Border x STRI (Mode 4)		0.3277 *** (0.079)		-0.6496 *** (0.219)	0.6510 ** (0.264)
Observations	2493	2493	2537	2537	2537
Log-likelihood	-721.21	-707.26	-1277.38	-1277.14	-1234.48



Services Trade Costs and Policy Reform

How do applied policies matter for services trade?

Construction of AVE for services policy **changes**

- ▶ AVE = percentage change in iceberg trade costs associated with change in NTM (=STRI) affecting services trade
- ▶ AVE derived from previous specification of gravity model trade cost function (Bekkers and Rojas-Romagosa, 2018)

$$AVE_j^d \equiv \frac{\tau_{ij}|STRI^1}{\tau_{ij}|STRI^0} - 1 = \left(\frac{STRI^1}{STRI^0} \right)^{-\frac{\hat{\gamma}_2}{\theta}} - 1$$

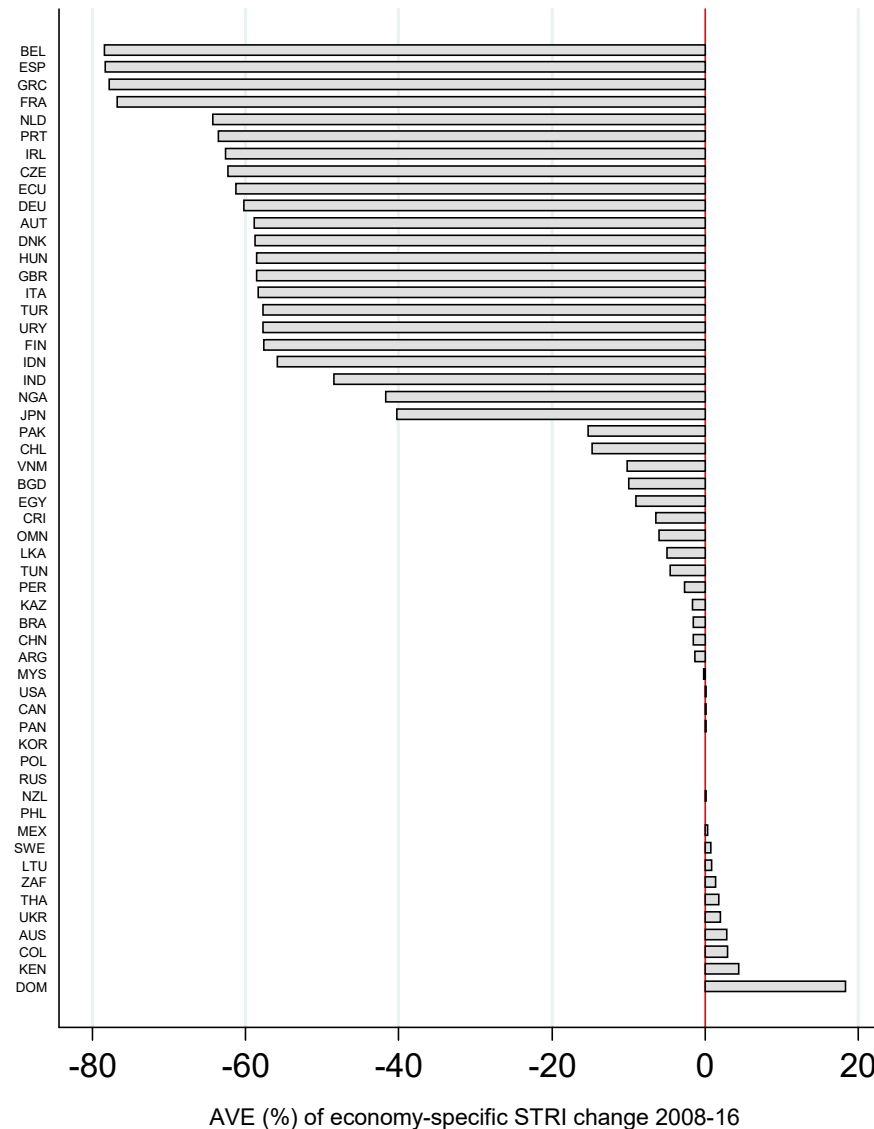
↪ AVEs thus defined show how $\Delta STRI$ alters the border effect

- ▶ We evaluate the actual observed policy change 2008-11 vs 2016, which varies across sectors and economies
 - ↪ Gravity coefficient $\hat{\gamma}_2$ estimated from average 2015-16 services trade flows. Assumption that relationship btw border friction and STRI unchanged

Services Trade Costs and Policy Reform

Transportation:

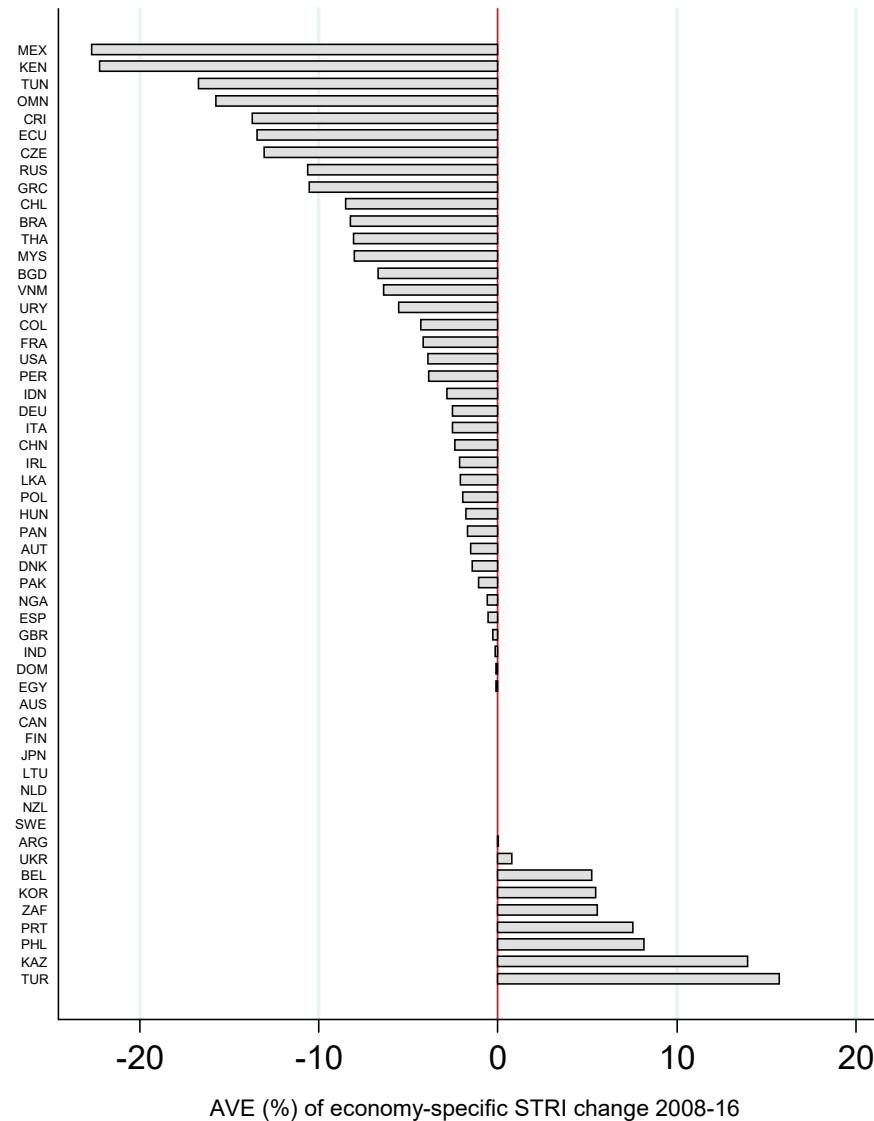
Actual observed
STRI changes
(2008/11 – 2016)



Services Trade Costs and Policy Reform

Insurance:

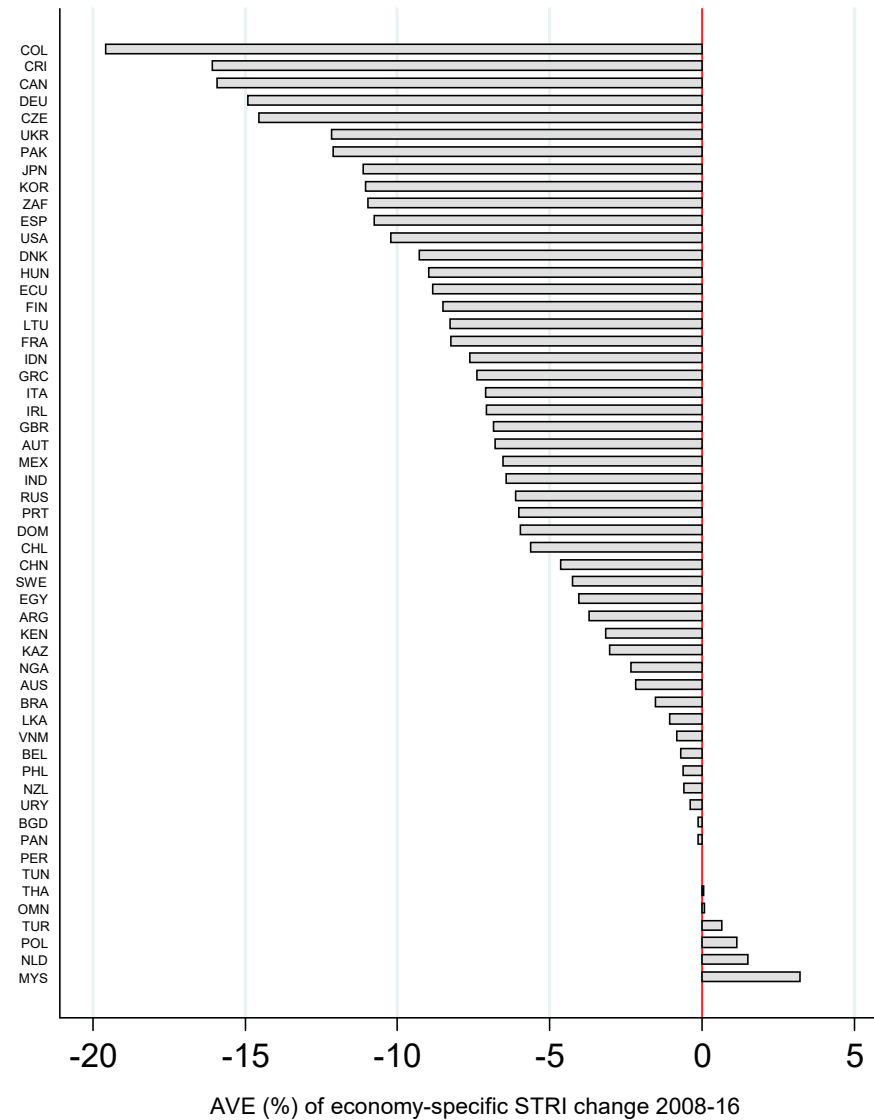
Actual observed
STRI changes
(2008/11 – 2016)



Services Trade Costs and Policy Reform

Professional Services:

Actual observed
STRI changes
(2008/11 – 2016)





Services Trade Costs and Policy Reform

Summary

- ▶ Evidence that qualitative patterns of change also matter quantitatively
- ▶ Holding everything else constant, policy reform associated with significant fall (often double-digit) in trade costs
- ▶ Policy impact across modes of supply
 - ↳ Policies affecting commercial presence change trade costs for Mode 1 (complementarity)
 - ↳ Some evidence of higher mode 1 trade when mode 4 is restricted; in sectors most exposed to digitisation (Finance, Telecom, Prof services)
- ▶ Gravity estimation results consistent with other work (e.g. OECD)
- ▶ These results pertain to cross-border services trade only
- ▶ Scope for counterfactual policy simulations



Conclusions

1. WB-WTO Services Trade Policy Database:
 - ▶ Updated services trade policy information for 68 economies and 23 services subsectors
 - ▶ STRI scores obtained with improved methodology
 - ▶ Expanding coverage: e.g. CEFTA, selected African economies underway, and new sectors
2. Between 2008-11 and 2016: broad-based trend to more openness
 - ▶ Lower income economies reform telecoms and finance
 - ▶ Advanced economies open up transport and professional services
 - ▶ New measures affecting services trade (scrutiny, data flows)
3. Policy changes matter substantially for services trade costs

Thank you