

A global data set on trade in services by modes of supply

A project of WTO funded by EU

GTAP, 7-9 June 2017



Outline

- A New Statistical Approximation?
- Illustrative Example
- The Project Plan
- Available data
- Benefits of TiS MoS
- Next steps
- Q & A

Supply of Services by Modes

New ? Statistical Approximation

Mode of Supply	Estimated share
1 - cross-border supply	30 %
2 - consumption abroad	10 %
3 - commercial presence	55 %
4 – presence of natural persons	less than 5% (Approx. 220 billion USD)

An example: Doctor

How is the service supplied ?

Online advice, phone,...

Mode 1: cross border supply

**Request client
to travel**

Mode 2: consumption abroad

**Open a practice
abroad**

Mode 3: commercial
presence

**Travel abroad
temporarily**

Mode 4: presence of
natural person

**Reallocate to work
in his practice abroad**

Mode 3 & 4

**4 modes
+
combinations**





An example: Tourism

GATS W/120 list

- Hotels and restaurants
- Travel agencies and tour operator services
- Tourist guide services
- Other services

4 modes of supplying services

BOP
“Travel”

Sales of tourism operators (Mode 1)

Mode 2

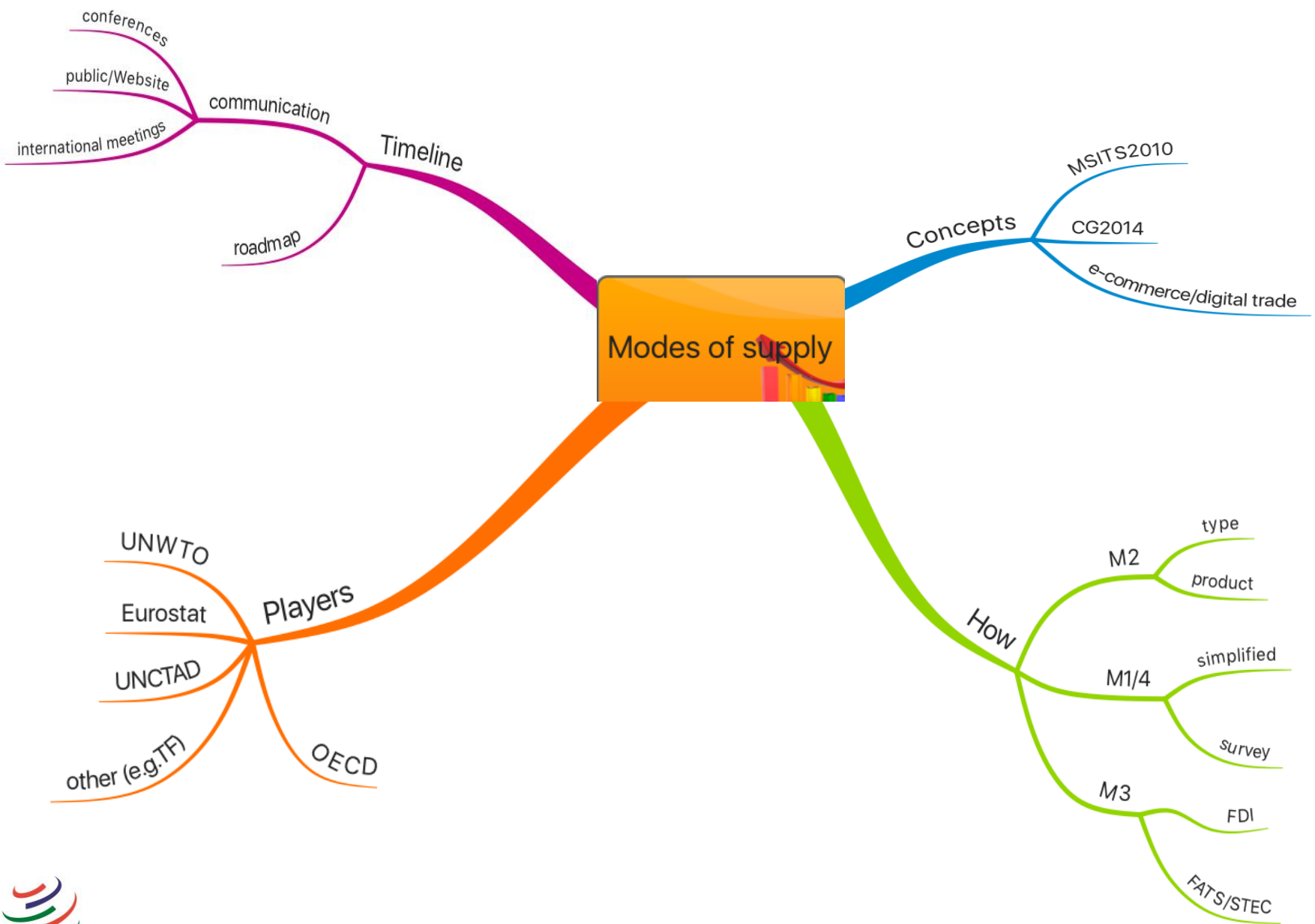
Foreign tourist guides (Mode 4)

Affiliates of hotel chains (Mode 3)

but

Foreign managers/
intra-corporate transferees (Mode 4)





Plan

2017

Q1

- Fix reported data
- Previous work

Q2

- OECD WPTGS
- First allocation by MoS

Q3 & Q4

- Include comments
- Add activity-based FDI/FATS

2018

Q1

- 2nd allocation

Q2

- Documentation of methodology and data

Q3

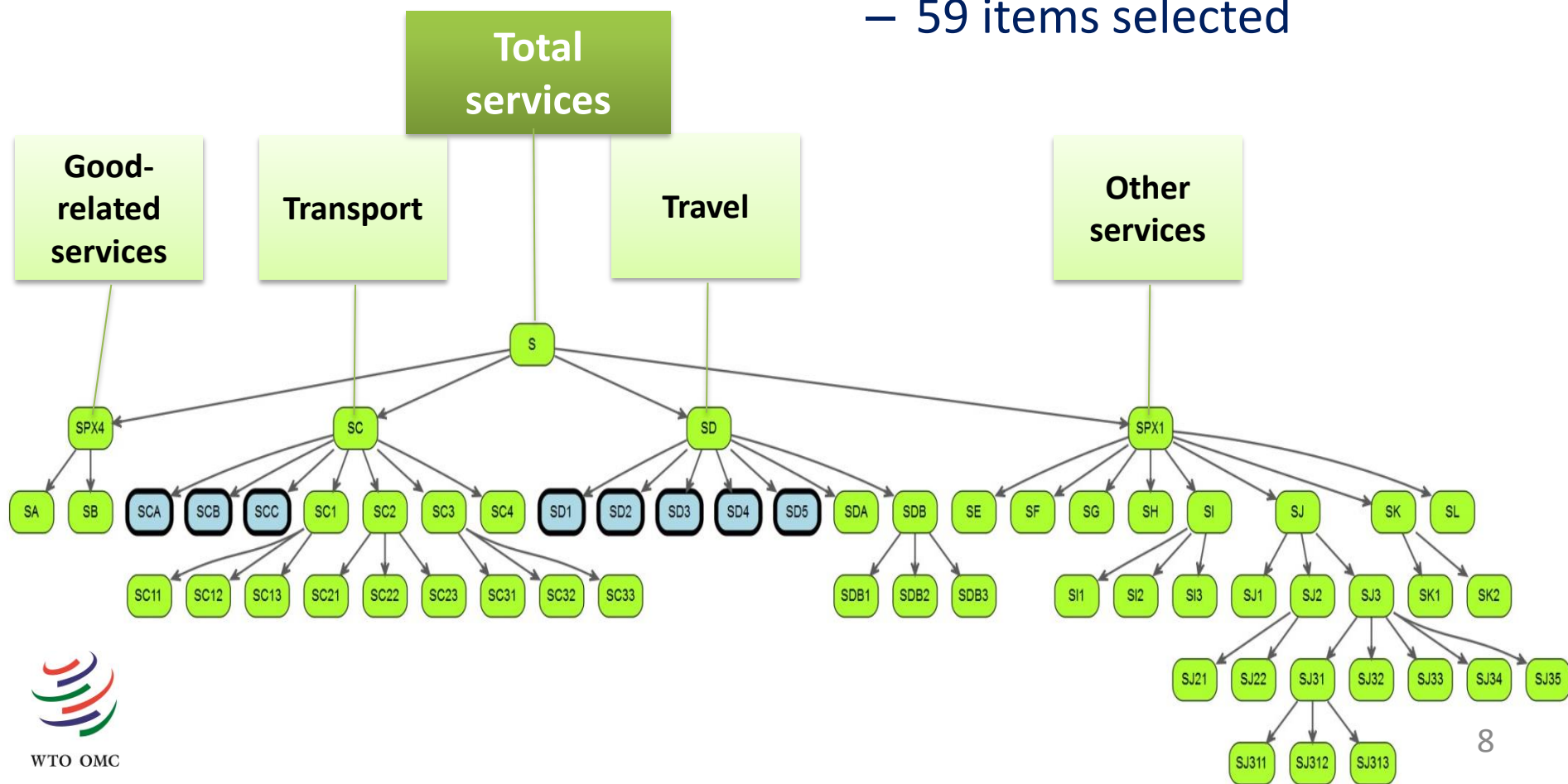
- Explore and implement link with BTiS

Q4

- Revise, develop, update methodology

BoP data set (modes 1,2 & 4)

- 198 reporters
- Imports and exports
- 2005 to 2015
- 59 items selected



Filling the gaps is necessary before estimating the modes

- **Detection and correction** of implausible values:



- Detection of misreported data
- Inconsistency in the BOP hierarchy
(e.g. $\sum Subitems > items$)
- Negative values
- Difference sources within subitems and item

- **Missing values :**

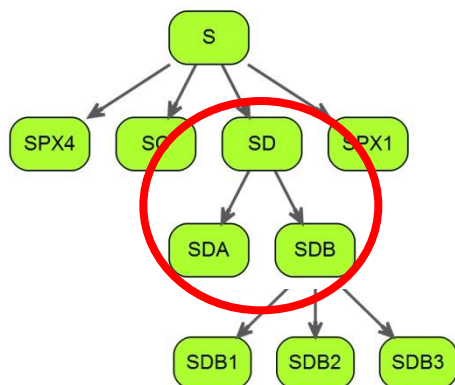
- we have 117,188 observations (out of 257,004)
i.e. **45% of the observations are missing**



→ **How to estimate them ?**



Filling the gaps is necessary before estimating the modes

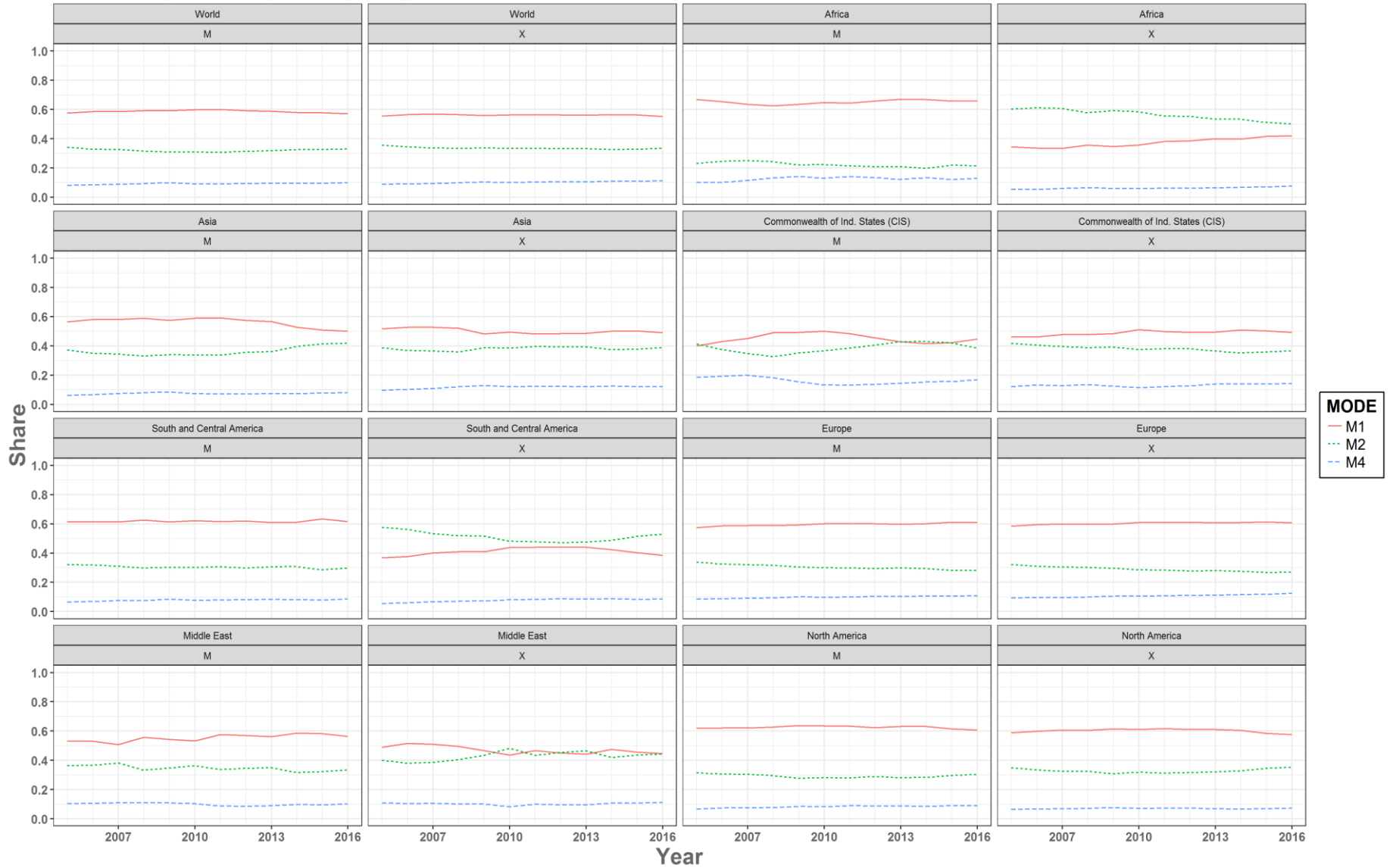


Estimations “top-down” :

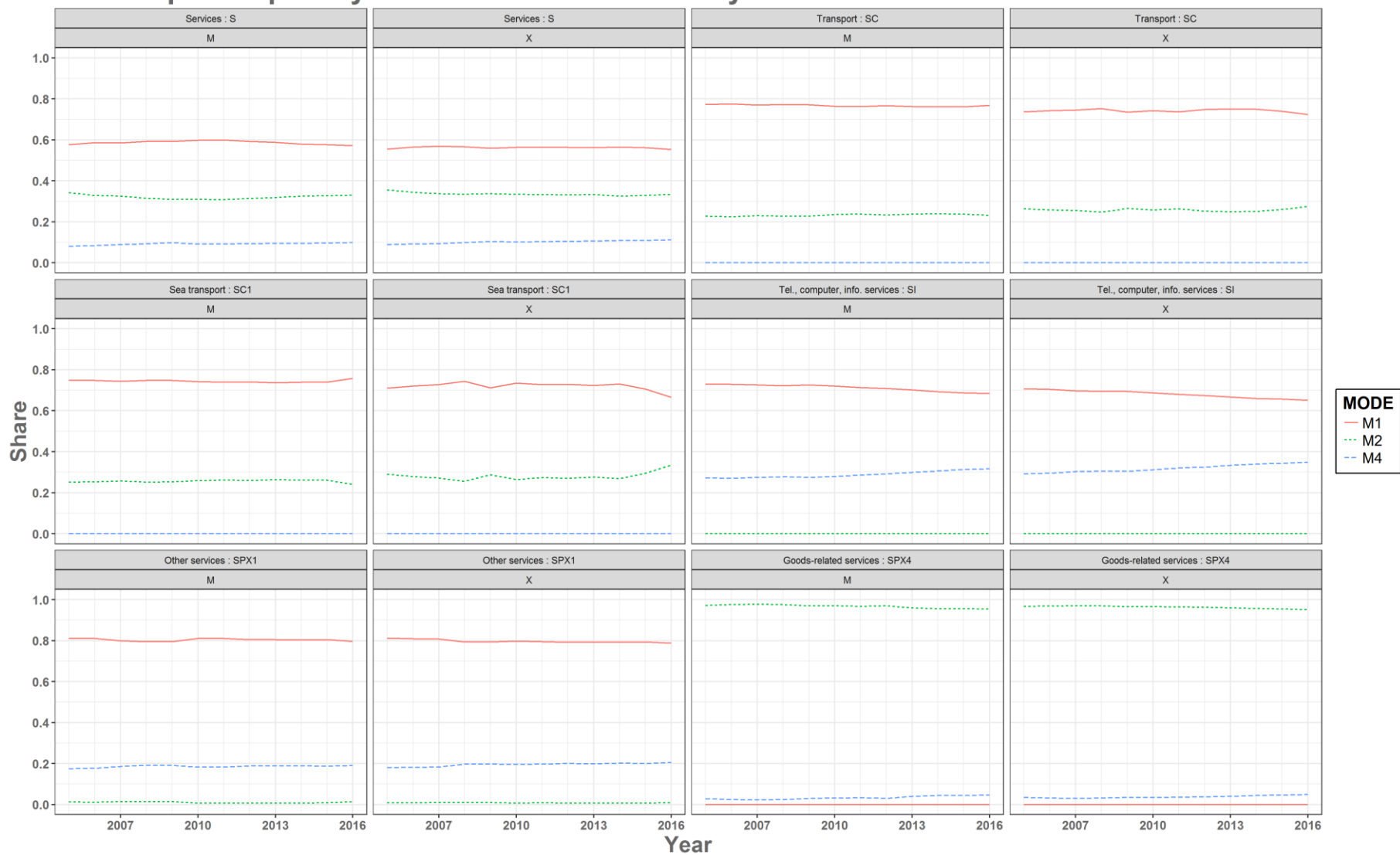
- i. Simple derivations : values derived from item-subitem relationship
- ii. On shares :
Monotonic cubic spline interpolation
Backcasting / forecasting by moving averages of differences
- iii. Completely missing

FLOW	INDICATOR CODE	HIERARCHY	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
M	SD	23000000	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
M	SDA	23100000											
M	SDB	23200000											
M	SD	23000000	23.2%	23.3%	23.4%	23.8%	21.2%	21.9%	22.3%	21.2%	20.8%	20.8%	20.8%
M	SD	23000000	27.7%	28.3%	29.9%	30.1%	29.2%	30.5%	31.1%	31.3%	31.2%	31.3%	30.5%
M	SPX1	24000000	48.6%	48.0%	46.4%	45.9%	49.4%	47.4%	46.4%	46.9%	47.4%	47.2%	47.8%

Total Import/Export by region broken down by MoS



Total Import/Export by main item broken down by MoS



How to estimate mode 3?

- FATS framework to approximate GATS mode 3
- Use existing FATS data to build global database

(Lakatos and Fukui (2012))

$$FAS_{irst} = \alpha_0 + \beta_1 \ln(GDP_{st}) + \beta_2 \ln(GDProw_{rst}) + \beta_3 \ln(Production_{irt}) + \beta_4 \ln(GDP/capita_{rt}) \\ + \beta_5 \ln(GDP/capita_{st}) + \beta_6 \ln(distance_{rs}) + \beta_7 CommonLanguage_{rs} \\ + \beta_8 TradeOpenness_{rt} + \beta_9 FDIrestrict_{ir} + \beta_{10} \ln[(S/U)_{rt}/(S/U)_{st}] + \gamma_t + \varepsilon_{irs}$$

- where i=sector, r=host country, s=source country, t=time
- Use FDI data?

Benefits of TiS MoS

- Through **co-operation** with other international organizations resources are leveraged 
- The data set will help to better analyze and **monitor developments** related to trade agreements 
- The data set will be an international benchmark and thus **“everybody” can contribute** to improve it
- The development of the data set will help encouraging countries to develop their own pilot projects/case studies/survey amendments for improving their national statistical production 
- **To summarise, good information base is needed for evidence-based decision-making**

Next steps

- Complete 2005 – 2016 data set ✓
- Apply as a first simplified approach ✓
- Gather case studies/pilot projects
- Define typology for case studies/pilot projects
- Develop approach to estimate mode 3 (FDI/FATS)
- Expert meeting (October 2017), refine against feedback
- Link with bilateral trade in services data and with services trade restrictiveness indices (2018)





**Any feedback, comments, etc.
please send email to
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