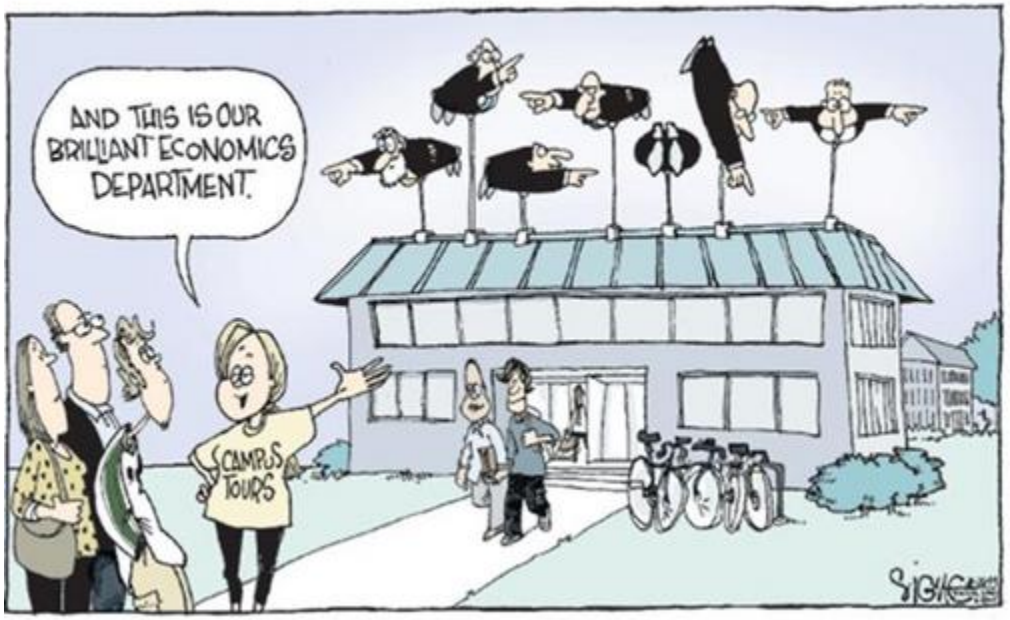


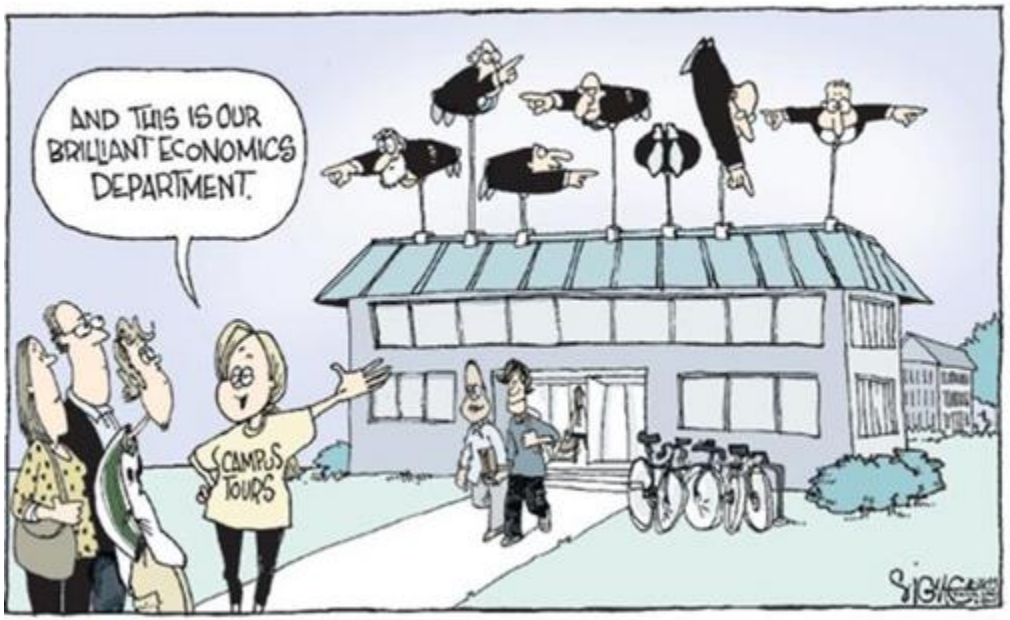
BTM 3.0 Ready, steady, go!

Rossella Bardazzi – UniFi (Italy)
Leonardo Ghezzi – IRPET (Italy)

What's the BTM?

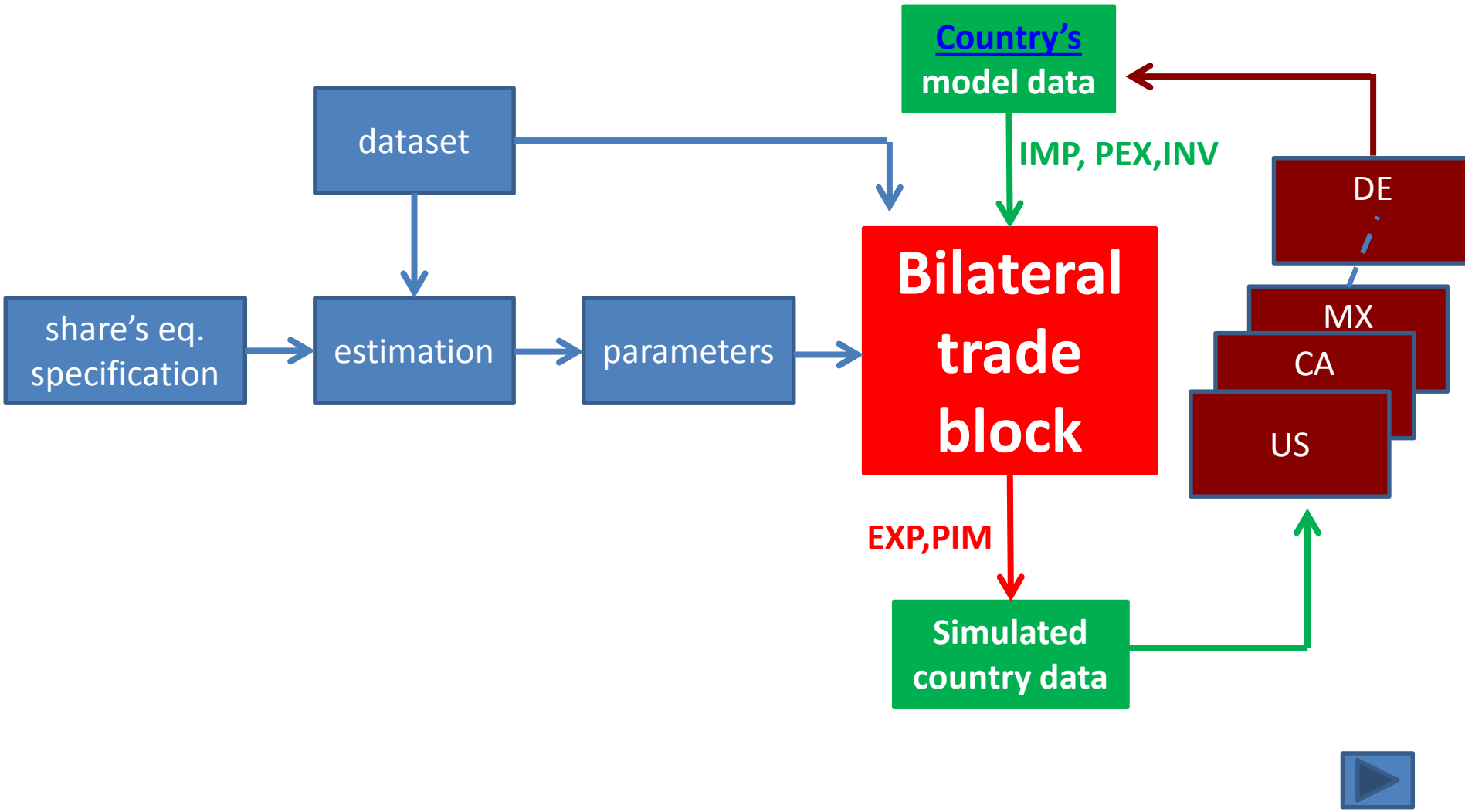
- A set of 14 country models
- Sectoral disaggregation
- A dynamic tool
- Interactions among economies
- Econometrically estimated equations
- Long-term forecasts and macro-policies evaluation
- Global coverage

Why the BTM?



BTM forces the model builder to produce consistent forecasts …
with your eyes, you look at your own country … with your mind, you consider all the World

What's the BTM?



Dataset

- Data sources: **EU – COMEXT** and **UN - COMTRADE**

- Classification: **two-digit SITC classification (66 categories)**

- Flows: **Imports in US Dollars (current prices)**

- Coverage: **1999-2012 (for the first 90 importers, 99% of total world imports)**

Share's equations specification

The general equation to predict the evolution of trade share matrix M is

$$S_{i,j,t} = \beta_{i,j,0} \cdot \left(\frac{P_{e,i,t}}{P_{w,j,t}} \right)^{\beta_{i,j,1}} \cdot \left(\frac{K_{e,i,t}}{K_{w,j,t}} \right)^{\beta_{i,j,2}} \cdot e^{\beta_{i,j,3} \cdot T_t}$$

- The first variable captures price competitiveness (the ratio between the effective price of the product in question in country *i* (exporters' domestic price) in year t, P_{eit} and the commodity-specific world price as seen from country *j* (importer) in year t, $P_{wjt} = \sum_i S_{ij0} P_{eit}$)
- The second variable is a proxy for non-price factor competitiveness i.e. quality and technology improvements (K_{eit} is built from investment data as an index of effective capital stock in the industry in question in the exporting country, as a moving average of the capital stock for the last three years to allow for lagged effects, and K_{wjt} is the same index of world average capital stock as seen from the importing country)
- Other non price factors (preferences, habits and trade restrictions) are assumed to follow a time trend (Nyhus trend, T)

Parameters

Equation Specification	# equations		
P, K, T	3,906	22.8%	
P, K	2,260	13.2%	
P, T	3,595	21.0%	
K, T	3,292	19.2%	
P	1,419	8.3%	
K	1,361	7.9%	
T	1,280	7.5%	
Constant	27	0.2%	
TOTAL # ESTIMATED EQUATIONS	17,140	100.0%	83.7%
zero shares	913		4.5%
Not enough significant shares	2,407		11.8%
# OF POTENTIAL EQUATIONS	20,460		100.0%

- **The relative price is a key explanatory variable in 64% of equations**
- **The relative capital stock is a key explanatory variable in 62% of equations**

Parameters: a snapshot

BILATERAL SHARE	SECTOR	CONST.	PRICE ELAS	CAPITAL ELAS	TIME TREND	SEE	RHO
Canada's Share in US InorgChem Import	(30)	-1.634	-0.676	0.000	-0.021	0.10	-0.22
USA's Share in US InorgChem Import	(30)	Zero shares.					
Mexico's Share in US InorgChem Import	(30)	-3.280	-0.238	0.000	-0.003	0.11	0.15
Austria's Share in US InorgChem Import	(30)	-5.559	0.000	0.000	-0.009	0.31	0.71
Belgium's Share in US InorgChem Import	(30)	-4.157	-1.278	0.435	-0.063	0.16	-0.10
France's Share in US InorgChem Import	(30)	-3.004	0.000	1.756	-0.078	0.35	-0.12
Germany's Share in US InorgChem Import	(30)	-2.518	-0.015	0.000	-0.008	0.14	-0.19
Italy's Share in US InorgChem Import	(30)	-4.959	-1.149	3.975	0.024	0.23	0.28
Spain's Share in US InorgChem Import	(30)	-6.406	0.000	0.842	0.000	0.55	0.25
UK's Share in US InorgChem Import	(30)	-2.635	-0.340	0.000	0.051	0.30	0.16
Japan's Share in US InorgChem Import	(30)	-3.295	-0.235	0.000	0.000	0.41	0.87
China's Share in US InorgChem Import	(30)	-2.447	-0.450	0.867	0.018	0.16	-0.43
Korea's Share in US InorgChem Import	(30)	-4.946	-2.320	0.023	0.080	0.27	0.03
Russia's Share in US InorgChem Import	(30)	-2.166	-0.441	0.000	0.000	0.20	0.39
REZ's Share in US InorgChem Import	(30)	-2.495	-3.732	2.390	-0.024	0.22	-0.27
REU's Share in US InorgChem Import	(30)	-4.455	0.000	0.180	-0.042	0.27	-0.11
OIL's Share in US InorgChem Import	(30)	Not enough significant shares.					
ROW's Share in US InorgChem Import	(30)	-1.070	-2.546	2.020	0.000	0.13	0.12

Bilateral Trade Block

BTM

From country to BTM classification

Bridge matrices; link country data with BTM data; 4 areas

Move the shares

We have new shares; total demand coming from each market; we obtain exports

From BTM to country classification

Bridge matrices; we link BTM forecasts with country models

Links between the BTM and the national models

The national models (MM) act as ‘contributors’ and as ‘beneficiaries’.

Each model supplies to BTM its individual forecasts of:

- ✓ import flows in national classification *[real side of the MM]*
- ✓ domestic prices in national classification (as proxies for export prices) *[nominal side of the MM]*
- ✓ investment flows by investing sector in national classification (then cumulated in BTM to compute capital stock indices) *[real side of the model]*

Each model receives from BTM the following variables:

- ✓ export flows in BTM classification (2 digits SITC)
- ✓ import prices in BTM classification (2 digits SITC)

Let’s try to run the model …

We have some results …