

Monitoring Competitiveness

Taking Stock and Outlining Further Steps

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Competitiveness: Outcomes and Drivers

- Need an independent in-depth view on the outcomes and drivers of international competitiveness.
- Offer a synthetic assessment of past and current outcomes.
- Directly relevant for formulating and evaluating policies.
- Competitiveness is a fuzzy concept, no consensus definition: so far we restricted our working definition to trade outcomes.
- We want to relate the outcomes we identify ("success stories" vs "problem areas") to structural and macroeconomic factors.



No Consensus Definition: we look at trade outcomes

- Often focus on price and cost factors only (ULC, Real Exchange Rates, etc).
- More thorough analysis from firm-level data (but “matching problem” when moving from micro to macro results on competitiveness).
- Our working assumption:
International competitiveness = ability to compete in international markets = trade outcomes.
- Manifestation of high productivity \Rightarrow more sustainable growth and higher living standards.
- Analogy with firm competitiveness: firms compete for market share and in attracting capital, countries compete for export shares and FDI inflows.

A Medical Analogy

It makes sense to separate outcomes and drivers to aid policy formulation and evaluation: a medical analogy

- Outcomes: **Diagnostics**.
 - Measurable outcomes in trade and FDI.
 - Capturing many dimensions: e.g. extensive and intensive margins, product differentiation, price and non-price competitiveness.
- Drivers: **Aetiology**.
 - Linking each outcome to structural and macroeconomic factors
- Policy Formulation: **Therapy**.
 - Extracting policy recommendations from the link between outcomes and drivers.
 - Without forgetting policy **evaluation!** ("Health Policy?")

The Indicators We Used So Far

We looked at 48 countries, including all G20 and EU countries and additional advanced economies, % change in last 2 years and average annual % change, 2005-2010.

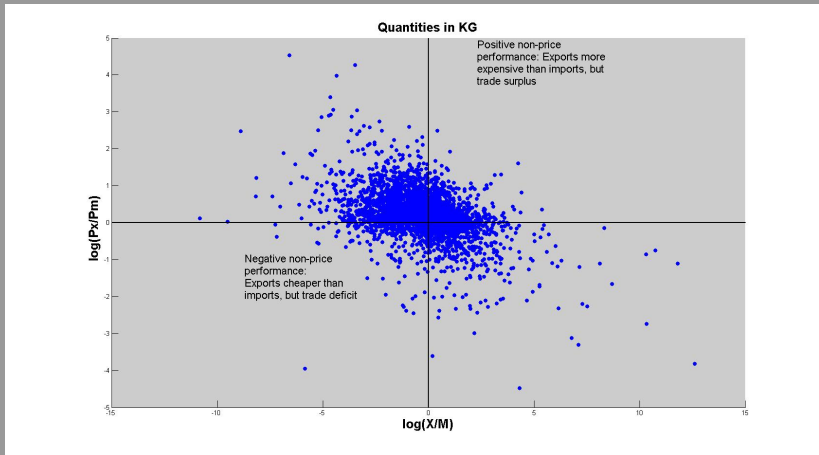
We did a cluster analysis on:

- Overall export Performance
 - Percentage change in world trade share of exports (both manufacturing and services).
- Openness and integration in production networks
 - Relative trade intensity in intermediates (Balassa index in BEC).
 - Exports openness.
- Export diversification and sophistication
 - Extensive margin (number of trade relationships).
 - Export sophistication (associated with a country's specialization pattern).
- FDI
 - Net FDI inflows over GDP.
 - World share of FDI inflows.

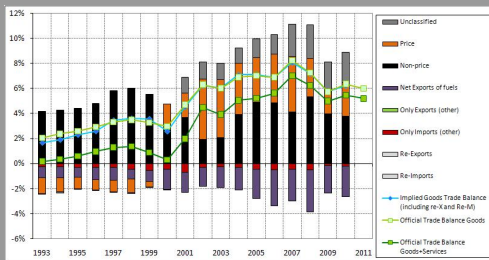
A Peek At the Results (preliminary!)

Overall export performance				Openness and integration in production networks				Export diversification and sophistication				FDI																			
% change in manufacturing export market share		% change in services export market share		% change in the Balassa index for intermediate goods		% change in export/GDP		% change in export extensive margin		% change in expy		% change in net inflows/GDP		% change in net outflows/GDP																	
SR	MR	SR	MR	SR	MR	SR	MR	SR	MR	SR	MR	SR	MR	SR	MR																
SA	27.2	CN	7.33	CN	7.13	IN	7.80	FI	2.16	AU	1.24	LV	9.28	LT	4.33	LV	7.11	LV	10.0	RO	3.45	RO	2.39	FI	37.4	FI	12.5	MX	3.12	NZ	0.0
IN	9.22	SA		SA		CN		IN		HK		IE		HU		IE		MX		CY		LV		DE	4.07	AT	4.88	BE		AT	
KR		IN		IN		BR		MT		AT		RO		KR		RO		RO		IL		IL		LT	0.73	NL		IL	0.36	MT	
CN		SK		HK		RO		RO		RO		LT		US		PT		IL		SA		LT		LV		GR	0.29	FI		BE	
ID		LV		ID		SA		AU		JP		EE		IN		LT	3.45	LT	4.63	SG	1.26	CY		SG		LT		LU		MX	
SG	5.22	AR		SG		AR		RU		DE	0.14	MX	1.70	CY		PL		BG		MX		HK	0.50	NL		ID		SK		CN	6.0
MX		LT		ZA		MT		JP		BE		CY		LV		HU		CN		PL		CN		ES		LV		ES		IL	
AR		PL		CH		PL		NO	0.18	CY		HK		JP		LU		BE		NO		PL		NO		ES		DE		BR	
RO		RO		BR		SG		SG		MT		HU		IE		CZ		FI		LV		IE		LU		DE		IE		DE	
HK		CZ	0.83	AR		RU	3.08	HK		TU		BG		AU		TU		TU		KR		BG		CZ		NO		HK		NL	
JP	0.67	KR		AU		CZ		LV		ES		NL		DE	2.72	KR		PT		LT		TU		BE		TU		NL		IN	
CH		IL		US		LV		BE		CH		PL		EE		AT		IN		BG		NO		ID		PT		PL		PL	
IL		SI		CA	-0.78	LU		KR		ZA		MT		HK		SK		CZ		FR		CZ		CY	-0.24	BE		CZ	-0.20	NO	
IE		CY		BE		CH		BR		IN		ES		NL		CN		PL	2.37	BE		MT		MT		MT		SE		IT	
AU		TU		IL		HK		BG		FI		CZ		UK		BE		CA		TU		SA		EE		SG		RU		LU	
SK		ID		TU		KR		MX		DK		UK		SA		ES		SK		UK		KR		HK		IL		US		EE	
NL		EE		LU		FI		CA		IT		DK		CH		MX	1.14	AT		CH		SK		BR		IN		AU		KR	
ZA	-3.57	BG		IE		IE		AR	-0.86	AR		SK	-1.49	MX		FR		KR		HK		CH		CN		CY		IT		CY	

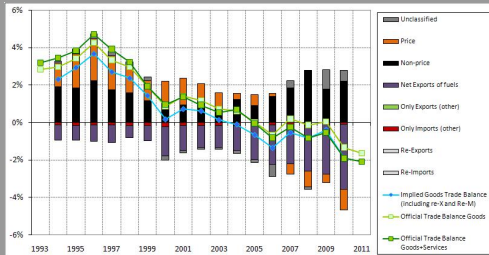
More Recent Work: Indicator of Price/Non Price Competitiveness (VERY Preliminary!)



(a) Allocation of HS-6 sectors



(b) Decomposition of German trade balance



(c) Decomposition of Italian trade balance

The Aetiology: what variables determine success or difficulties?

- We collected 50+ variables measuring both structural and macroeconomic factors.
- We regress each “diagnostic indicator” on all variables using Bayesian model selection/averaging (BMS).
- Only just began on the cross-section of 2005-2010 averages.
- This modelling approach can provide, for each indicator:
 - An evaluation of the importance of each variable in determining the various dimensions of the outcomes.
 - The average impact, across all models, of each variable.
 - Predicted outcomes of each country: a positive residual then indicates “super-success”.
- Do residuals predict future growth?
- Do different variables support e.g. intensive or extensive margin, or trade vs FDI?

An Indicative Variable List

- Price indicators: Real effective exchange rate, volatility of exchange rates, unit labour costs, [...].
- Non-Price indicators: Rigidity of Employment, R&D expenditure, Road Density, Internet Users, Tariff Rates, [...].
- Structural indicators: Market capitalization of listed companies, Control of corruption, schooling indicators, Time required to enforce a contract, [...].
- Macro indicators: Domestic credit to private sector, Public Debt/GDP, CPI inflation, Investment/GDP, [...].
- Pure structural controls: Population, surface area, population growth, urban population, dummy for ex-union with UK, Spain, Russia, [...].

Research Agenda

- First Deliverable: a diagnostic toolbox \Rightarrow need input on:
 - More indicators.
 - Methodology, robustness, enhancing cluster analysis.
Should we use principal components to get synthetic indicators?
- Second Deliverable: a causal analysis
 - Also more indicators.
 - A systematic investigation of the link between the various dimensions of competitive performance and structural vs macro policies.
- Third Deliverable: a “Materia Medica”? (More ambitious).

Research Agenda (continued)

Another central theme: linking micro-meso-macro analysis:

- **Micro:** firm-level analysis can zoom in on what structures/policies support internationalisation activities/success on international markets.
- **Meso:** Sectoral data are the basis of indicators of e.g. extensive margins, price/non price competitiveness, which can directly be translated into aggregate measures (e.g. contribution to trade balance).
- **Macro:** the level at which Central Banks operate mostly.
- We have already started in two ways:
 - Linking outcome indicators (some from sectoral data) and macroeconomic drivers.
 - Translating sectoral price/non price competitiveness into trade balance contributions.