"International trade : threats and opportunities in a globalised world"
Conference organised by the *National Bank of Belgium*, Brussels, October 14 & 15, 2010

BANQUE DE FRANCE

EUROSYSTÈME

Discussion of: "Can Belgian Firms cope with the Chinese Dragon and the Asian Tigers? The Export Performance of Multi-product Firms on Foreign Markets" *by Filip Abraham & Jan Van Hove*

Guillaume Gaulier, Banque de France

Plan of the discussion

- Selected contributions of the paper

- Measuring "Variety"

- Measuring "Quality"

- How does Belgium perform vis-à-vis China?
  (Some evidences using *CEPII-BACI* and *Eurostat-Comext*)

- Minor comments

Contribution: Data and Methodology

- *"Taking this analyis to the firm-product level is a major contribution to the literature"*

- Also bilateral approach

- Quality/variety

- Quality/prices

- Huge dataset, cumbersome to tackle

- Maybe difficult to disentangle contribution of firms and of sectors (products) with probably a very high concentration of Belgian exports in most sectors

Contribution: How to cope with Asian competition?

- *"Belgian firms are realizing more export sales and are exporting a broader range of products in markets and in (sub)sectors where Asian companies are competing"*

- *"Both a strategy of upgrading quality and one of increasing export variety allow Belgian firms to export more, even in markets where they are facing Asian competition"*

- The effect of variety is larger

- Quality expansion is not adequate in labour-intensive sector producing standardized goods like Leather, Textiles and Footwear.

- (in spite of strategies of "niches": production of very specialized textiles…)

Methodology: Variety (headcount of firms and markets served)

- A lot of changes in the Common Nomenclature (CN) 8 digit classification: in 2002 442 products dropped and 554 created; in 2005 450 dropped, 255 created…

- Linked to change in the Harmonized System (HS) 6 digit: revision in 2002 and 2007

- Can have important consequences for the analysis at the product level when one takes into account the extensive margin of trade

- For instance the number of products exported by Belgian firms to a particular market in a particular year can be affected by change in the trade classification

- *"Export variety is largest in Machinery, Textiles, Chemicals […]"* May be biased by the large number of positions in the trade classification for some sectors

- In Textiles and clothing many (around 850) relatively narrow HS-6 positions:

- *620451='Women/girls skirts, of wool or fine animal hair, not knitted'*

- *620452='Women/girls skirts, of cotton, not knitted'*

- *620453='Women/girls skirts, of synthetic fibres, not knitted'*

- *620459='Women/girls skirts, of other textile materials, not knitted'*

- *610451='Women/girls skirts, of wool or fine animal hair, knitted'*

- *610452='Women/girls skirts, of cotton, knitted'*

- *610453='Women/girls skirts, of synthetic fibres, knitted'*

- *610459='Women/girls skirts, of other textile materials, knitted'*

- In mechanic many HS-6 (around 500), but very heterogeneous:

- *840999='Parts for diesel and semi-diesel engines'*

- *840140='Parts of nuclear reactors'*

- In Aircraft industry (including parts): less than 20 HS-6

Surprising evolutions in export variety

- The number of firms exporting only one variety collapsed (Table 1a)

#firms exporting 1 variety

- Apparent drop in export variety in 2006 (Table 1b)

Total Export Variety (all sectors)
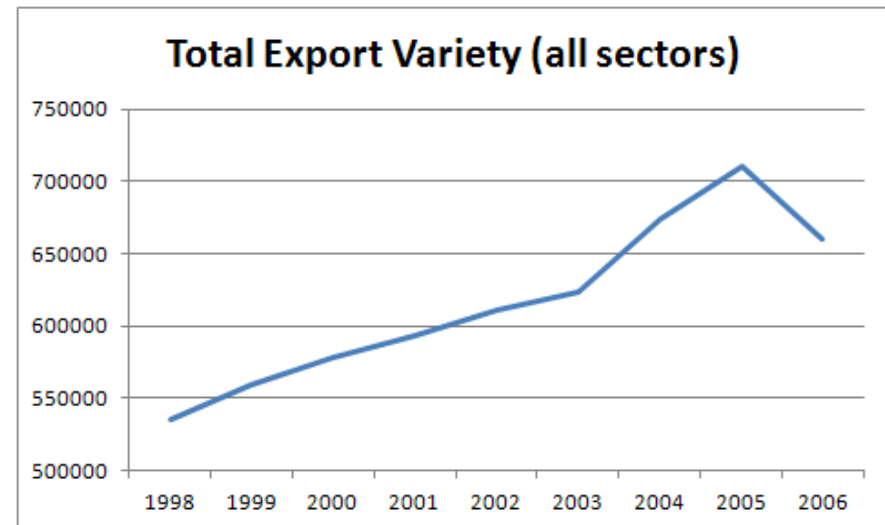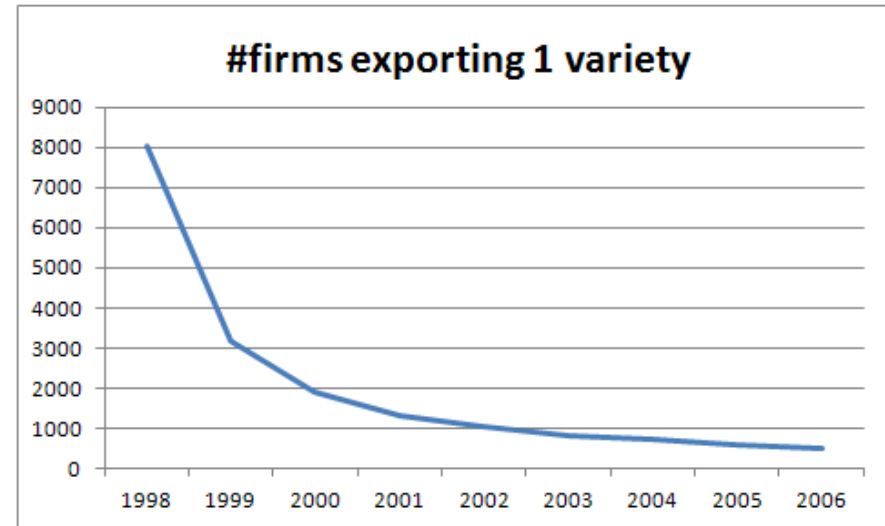
- With trade statistics, even at the most detailed level of classification (8 digits), variety and quality can easily be mistaken for: does a price (unit-value) gap of 100% (not rare) indicates difference in quality or totally distinct products (in absence of adequate positions in the classification)?

Methodology: Disentangling price and quality in UV changes

- The evolution of unit-values may reflect quality but also "pure" price changes/pricing strategies

- To define quality upgrading the authors require not only an increase in UV but also an increase in volume

- But what if price (not quality) increase by less than competitors so as volume increase? Wouldn't trade flows misclassified as quality upgrading?

- There can be both quality upgrading (downgrading) and "pure" price increase (decrease)

- Manova and Zhang (2009), using Chinese firm-level data, establish that firms vary both product quality and marks-up across destinations in response to market toughness and consumer income.

Growing market overlap with Asian competitors, but still large price (quality?) gap (at least vis-à-vis China)

- *" Schott (2008) shows that the average quality of American goods increased in a reaction to increasing Chinese competition"*: but unit-value/price/quality increases seem to be more limited on the markets where the competition with Chine is the fiercer

- *"The relative sophistication of Chinese exports is rapidly increasing"*: Yes, but maybe not "rapidly" when ones take into account quality

- Amiti and Freund (2008) show that despite the shift into more sophisticated products, the skill content of China's manufacturing exports remained unchanged, once processing trade is excluded

- China's specialization has relied on the exports of mass-market standardized goods subject to stiff price competition and which incorporate more and more sophisticated inputs, energy and raw materials

- China experienced a deterioration of its terms of trade
  (Gaulier, Lemoine and Unal, 2006; Amiti and Freund, 2008).

Table 1. Similarity of export structures at various levels of detail of the classification (2004)

		Brazil	China	France	Germ.	Italy	Japan	Russia	India	UK	USA	Other emerging
Sector level	China	0.39										
(ISIC headings)	France	0.61	0.50									
	Germany	0.55	0.47	0.76								
	Italy	0.55	0.60	0.66	0.70							
	Japan	0.52	0.55	0.64	0.82	0.58						
	Russia	0.54	0.30	0.47	0.45	0.44	0.37					
	India	0.51	0.56	0.54	0.47	0.63	0.38	0.49				
	UK	0.62	0.49	0.86	0.82	0.66	0.73	0.51	0.53			
	USA	0.59	0.55	0.84	0.81	0.64	0.77	0.48	0.48	0.88		
	Oth. Em.	0.46	0.44	0.40	0.34	0.42	0.35	0.38	0.45	0.39	0.38	0.40
Product level	China	0.21										
(HS 6 headings)	France	0.32	0.30									
	Germany	0.34	0.30	0.55								
	Italy	0.20	0.35	0.48	0.51							
	Japan	0.29	0.34	0.41	0.56	0.36						
	Russia	0.31	0.16	0.24	0.24	0.21	0.20					
	India	0.26	0.30	0.29	0.27	0.35	0.23	0.21				
	UK	0.29	0.30	0.55	0.57	0.43	0.44	0.25	0.27			
	USA	0.33	0.34	0.56	0.59	0.45	0.53	0.26	0.27	0.59		
	Oth. Em.	0.18	0.23	0.18	0.17	0.19	0.17	0.14	0.20	0.18	0.19	0.18
Variety level	China	0.17										
(market segment)	France	0.24	0.17									
	Germany	0.24	0.17	0.50								
	Italy	0.22	0.19	0.42	0.43							
	Japan	0.22	0.18	0.36	0.43	0.29						
	Russia	0.26	0.12	0.18	0.17	0.16	0.15					
	India	0.23	0.23	0.24	0.20	0.24	0.16	0.23				
	UK	0.20	0.16	0.47	0.51	0.36	0.36	0.18	0.20			
	USA	0.25	0.24	0.45	0.46	0.35	0.40	0.21	0.21	0.46		
	Other emerging	0.15	0.16	0.13	0.12	0.14	0.13	0.12	0.19	0.13	0.15	0.14

Note: Similarity between country A (column) and B (row) is one minus half the sum of the absolute value of differences between the (e.g.) sectoral shares in manufacturing exports of country A and those of country B. It ranges between 0 (perfect dissimilarity) and 1 (perfect similarity). The 'other emerging' group are defined as the emerging economies less Russia, India, China and Brazil. Any classification of countries is arbitrary. We stick here to CEPII's definition of emerging economies, based on the statistical criterion reproduced in Appendix A4. Note that new member states of the EU-25 are not considered as emerging economies.

Source: BACI-CEPII, and authors' calculations.

"Specialization across varieties and North–South competition" Fontagné, Gaulier, Zignago (2008) *Economic Policy*

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	USA	0.33	0.34	0.56	0.59	0.45	0.53	0.26	0.27	0.59	.	
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	Germany	0.24	0.17	0.50	.							
	Italy	0.22	0.19	0.42	0.43	.						
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	Russia	0.26	0.12	0.18	0.17	0.16	0.15	.				
	India	0.23	0.23	0.24	0.20	0.24	0.16	0.23	.			
	UK	0.20	0.16	0.47	0.51	0.36	0.36	0.18	0.20	.		
	USA	0.25	0.24	0.45	0.46	0.35	0.40	0.21	0.21	0.46	.	
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	UK	0.20	0.16	0.47	0.51	0.36	0.36	0.18	0.20			
	USA	0.25	0.24	0.45	0.46	0.35	0.40	0.21	0.21	0.46		
	Other emerging	0.15	0.16	0.13	0.12	0.14	0.13	0.12	0.19	0.13	0.15	0.14

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Source: BACI-CEPII, and authors' calculations.

"Specialization across varieties and North–South competition" Fontagné, Gaulier, Zignago (2008) *Economic Policy*

Table 2. Absolute change in similarity of export structures at the broad product categories and variety level (1995 to 2004)

		Brazil	China	France	Germ.	Italy	Japan	Russia	India	UK	USA	Oth. Em.
Broad product categories	China	15										
	France	8	21	.								
	Germany	7	20	−1	.							
	Italy	12	12	1	3	.						
	Japan	10	22	1	2	5	.					
	Russia	−6	9	2	3	7	4	.				
	India	7	1	2	0	2	5	4	.			
	UK	10	20	−1	−6	7	−4	4	8	.		
	USA	7	17	−4	−4	1	−1	6	4	−7	.	
	Oth. Em.	5	−5	4	4	3	7	6	−3	8	5	−2
Variety level (market segment)	China	2	.									
	France	3	4	.								
	Germany	4	5	4	.							
	Italy	−1	4	2	4	.						
	Japan	3	7	3	3	2	.					
	Russia	6	1	9	8	8	8	.				
	India	5	−2	9	6	5	3	12	.			
	UK	1	3	5	6	1	5	7	5	.		
	USA	1	5	4	7	2	1	8	5	1	.	
	Oth. Em.	2	−1	2	3	2	3	4	3	3	2	1

Source: BACI-CEPII, and authors' calculations.

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	Italy	12	12	1	3	.						
	Japan	10	22	1	2	5	.					
	Russia	−6	9	2	3	7	4	.				
	India	7	1	2	0	2	5	4	.			
	UK	10	20	−1	−6	7	−4	4	8	.		
	USA	7	17	−4	−4	1	−1	6	4	−7	.	
	Oth. Em.	5	−5	4	4	3	7	6	−3	8	5	−2
Variety level (market segment)	China	2										
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	Italy	−1	4	2	4	.						
	Japan	3	7	3	3	2	.					
	Russia	6	1	9	8	8	8	.				
	India	5	−2	9	6	5	3	12	.			
	UK	1	3	5	6	1	5	7	5	.		
	USA	1	5	4	7	2	1	8	5	1	.	
	Oth. Em.	2	−1	2	3	2	3	4	3	3	2	1

Source: BACI-CEPII, and authors' calculations.

"Specialization across varieties and North–South competition" Fontagné, Gaulier, Zignago (2008) *Economic Policy*

Table 3. World market shares by transformation level and market segment (intra-EU exports *excluded*, 2004, %)

Market segment	Exporter	Intermediate goods	Consumer goods	Investment goods	All
Lower	EU-25	14.7	13.6	18.4	15.3
	USA	14.4	7.4	11.5	11.9
	Japan	8.1	4.6	9.4	7.5
	Other developed	19.0	19.7	17.8	18.9
	China	14.9	25.0	25.7	20.1
	Brazil	2.1	1.9	1.4	1.9
	Russia	2.1	0.7	0.8	1.4
	India	2.7	3.0	0.3	2.2
	Other emerging	15.0	16.8	11.3	14.6
	Rest of the world	7.1	7.3	3.5	6.2
	All	100	100	100	100
Upper	EU-25	28.7	38.8	26.1	30.6
	USA	14.6	9.9	18.5	14.4
	Japan	15.8	9.9	16.8	14.6
	Other developed	22.3	13.3	20.3	19.5
	China	2.6	5.8	5.6	4.1
	Brazil	0.7	1.0	0.6	0.7
	Russia	1.1	0.3	0.3	0.7
	India	0.8	1.1	0.6	0.8
	Other emerging	9.9	14.3	9.4	10.9
	Rest of the world	3.7	5.7	2.0	3.8
	All	100	100	100	100

Source: BACI, and authors' calculations.

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Quality specialization of Belgium (in Fontagné et al. 2008)

Table 6. Contribution of individual EU-25 member states to EU exports (intra-EU excluded), by market segment (2004)

	Down	Middle	Up	Total
Austria	2.7	2.6	3.0	2.8
Belgium and Luxembourg	4.6	4.9	4.3	4.5
Cyprus	0.1	0.1	0.1	0.1
Czech Republic	1.3	1.0	0.7	0.9
Denmark	2.6	2.3	2.3	2.3
Estonia	0.2	0.1	0.1	0.1
Finland	2.4	2.8	2.1	2.4
France	12.6	13.3	11.6	12.3
Germany	24.9	29.7	31.2	29.2
Greece	0.7	0.5	0.3	0.5
Hungary	1.3	1.1	0.9	1.1
Ireland	2.4	1.8	6.3	4.1
Italy	14.3	11.9	10.9	12.0
Latvia	0.2	0.1	0.1	0.1
Lithuania	0.4	0.2	0.1	0.2
Malta	0.3	0.3	0.2	0.2
Netherlands	5.8	5.1	4.5	5.0
Poland	2.6	1.6	0.6	1.4
Portugal	0.7	0.7	0.7	0.7
Slovakia	0.5	0.5	0.4	0.5
Slovenia	0.8	0.5	0.3	0.5
Spain	5.3	4.6	3.0	4.0
Sweden	3.7	4.2	4.5	4.2
United Kingdom	9.8	10.3	12.1	11.0
All	100	100	100	100

Source: BACI-CEPII, authors' calculation.

Unit Value Ratios (logs) &
Similarity of Specialisation (HS-6 and destination, Finger-Kreinin index)
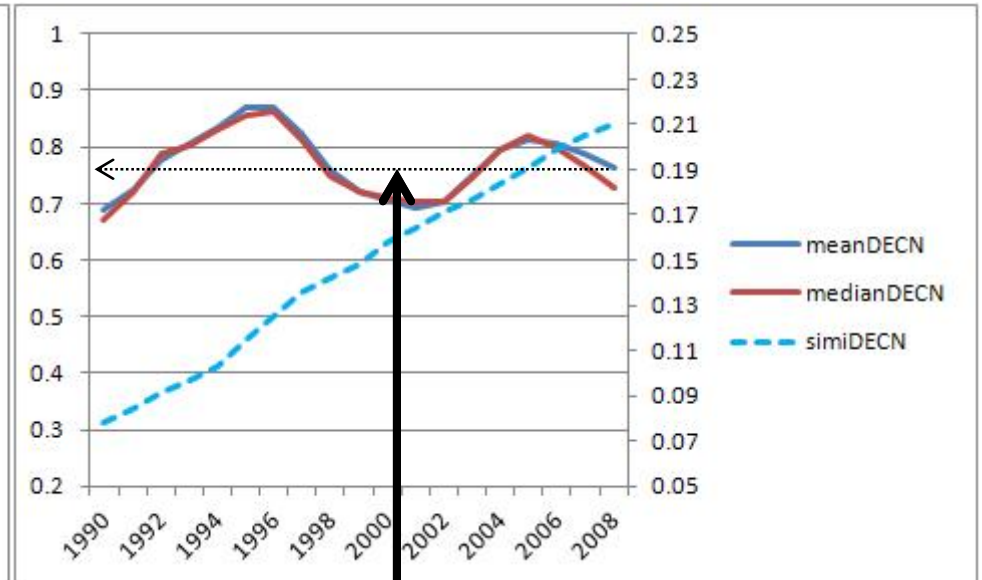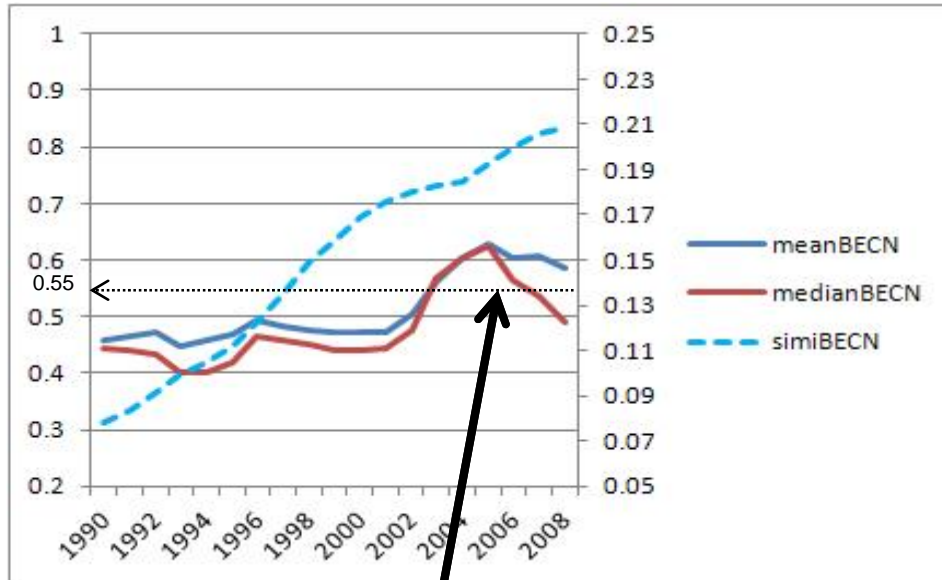
Belgian prices (UV) are
73% (exp(0.55)-1)
higher than Chinese' ones
(comparison on the same EU markets)

German prices are
110% higher than Chinese' ones

Source: Eurostat-Comext,
Ongoing work at the BdF 18

Does Belgium perform so badly?

- *" Belgian exporters are gradually losing ground in their main export markets"* => but how does it compare to others countries?

- *"Belgian firms are realizing more export sales and are exporting a broader range of products in markets and in (sub)sectors where Asian companies are competing"*

- According to *Eurostat-Comext statistics*, losses are limited, but possibly a bias due to re-exports

Head on with China: markets *where China is dominated* & *where China leads*.
Does Belgium withstand China's competition? or… Belgium simply re-exports Chinese goods?
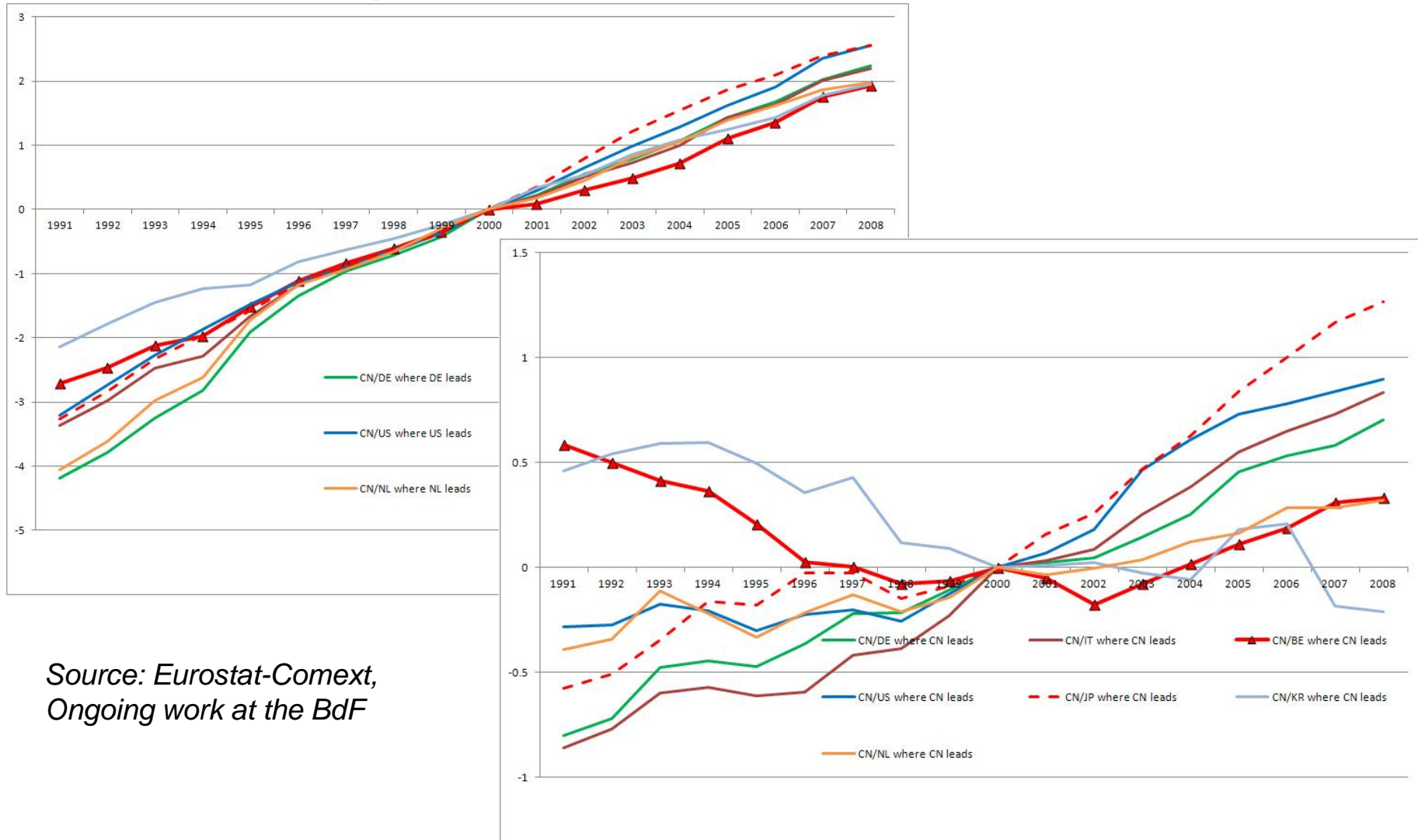
Source: Eurostat-Comext, Ongoing work at the BdF

Minor comments

- GDP of the export destination market as a measure of the overall degree of competition (note 10 page 9 with a reference to Mayer et al 2010): Broader measure of market access would do a better job

- Degree of competition in, say Belgium, is higher that what says its GDP because of a excellent access to large markets in its vicinity

- Dummy variable approach to measure Asian competition: at the HS-4 level probably a very large proportion de 1?

- Not significant firm characteristics: capital and innovation intensity: possible collinearity with productivity?

- Negative sign for the GDP per capita whereas EU dummies become non significant or negative: authors are not surprised because of the (large) impact of distance and border. Is this a multicollinearity problem? Or what is the (economic) intuition for this result?

- *"Previous studies showed that the quality of trade, measured at detailed product levels but not based on firm-level data, is driven by destination market characteristics"* this conclusion no longer holds with both sector and firm data: possibly a measurement issue, too much heterogeneity?

Annexes

Unit-value index for exports to EU15: Belgium and China
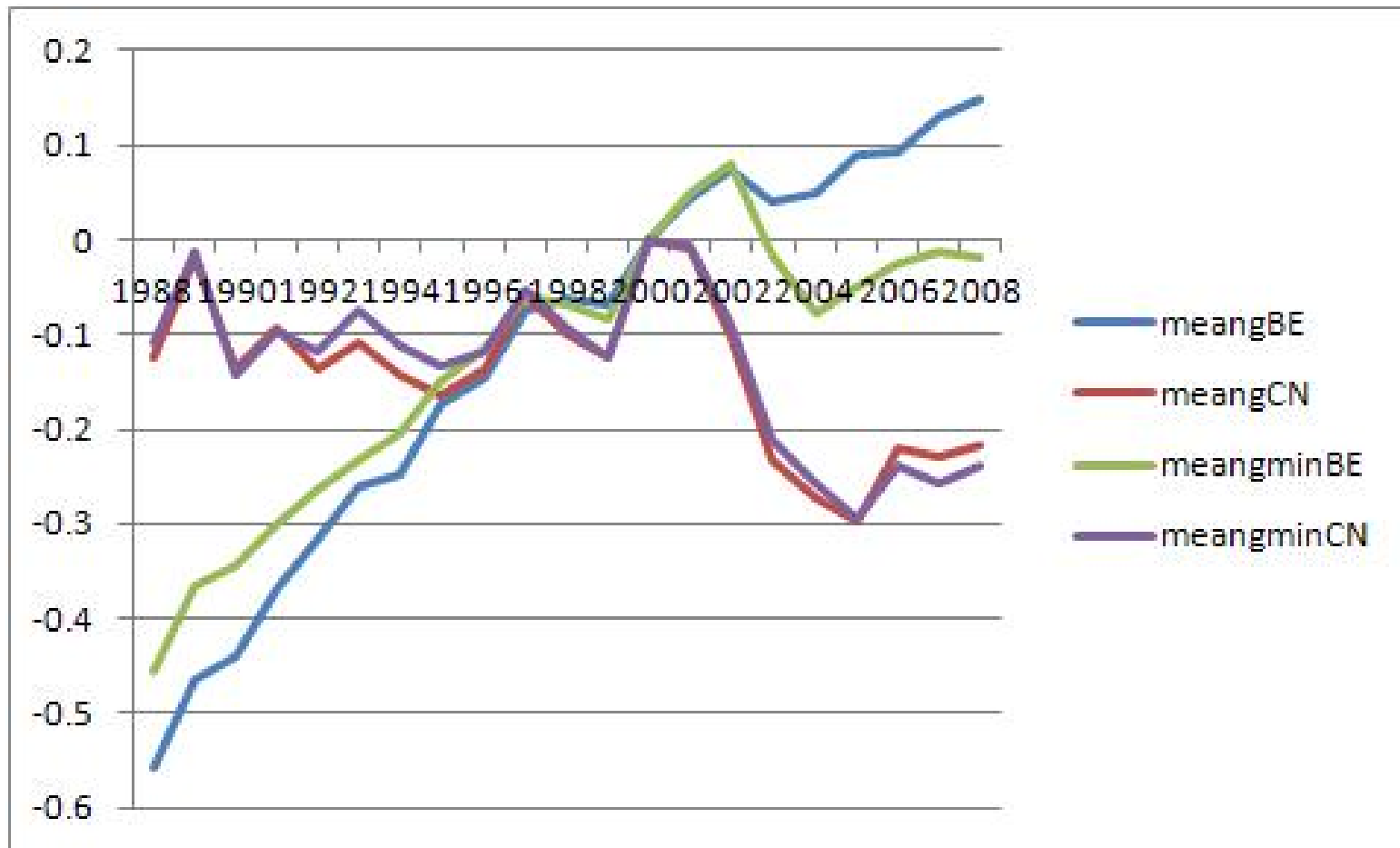
*Source: Eurostat-Comext,*
Ongoing work at the BdF

Looking at China

- What if China adopt a more inward oriented growth model: opportunities for Belgian firms?

- Firm entry seem to play a role for China trade only for processing firms (low entry costs, see Upward et al. 2010)

Chinese trade expansion (from Gaulier et al. 2010, China: Foreign trade and economic rebalancing)

Figure 1 - China's foreign trade expansion

A- Share in world trade 1980-2009

B- Share in China's GDP 1980-2008 (current prices)
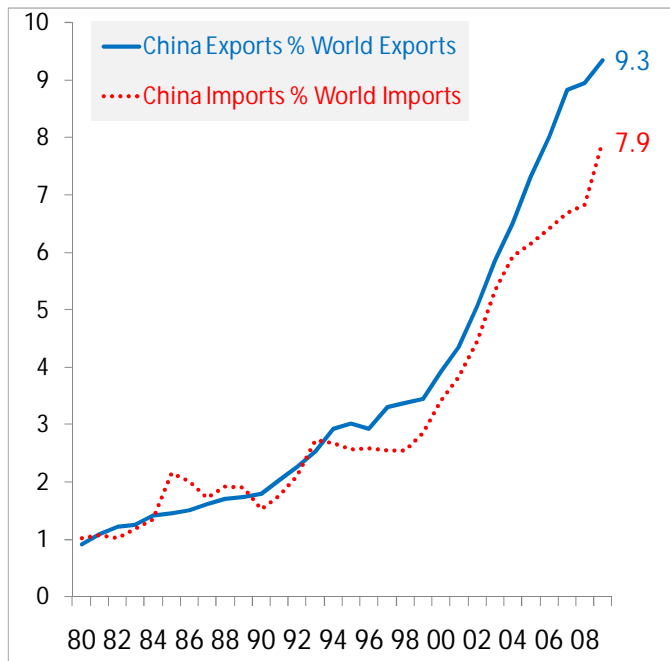
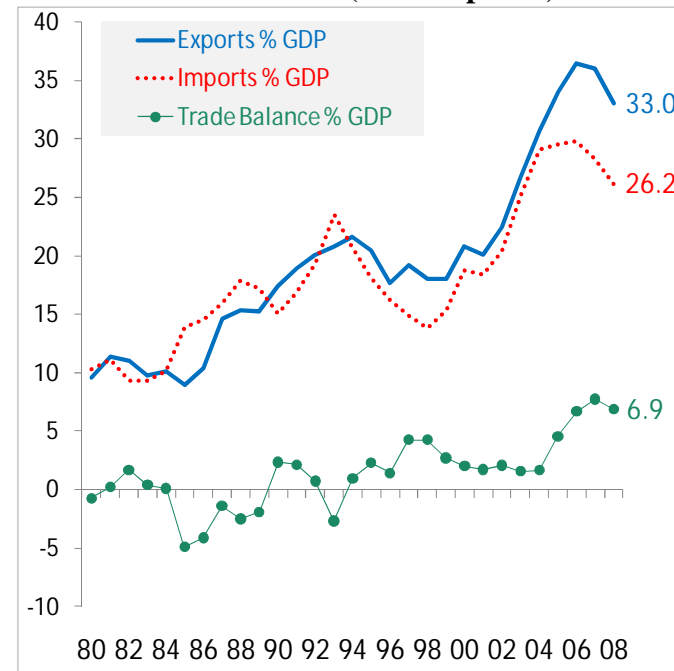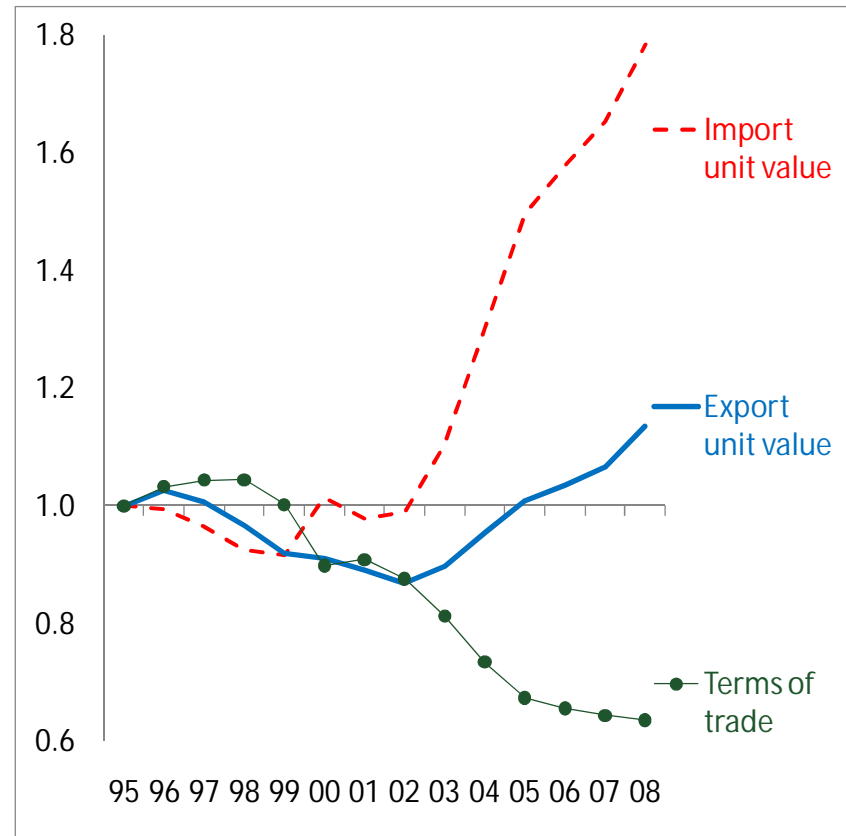Source: IMF-DOTS database, March 2010 and WDI.

Figure 7 - China: evolution of terms of trade
(index, 1995=1)

Note: Export and import unit values are in US$.
Source: China's Customs Statistics and Statistical Yearbook.