

Did the crisis disrupt EU exports to China?

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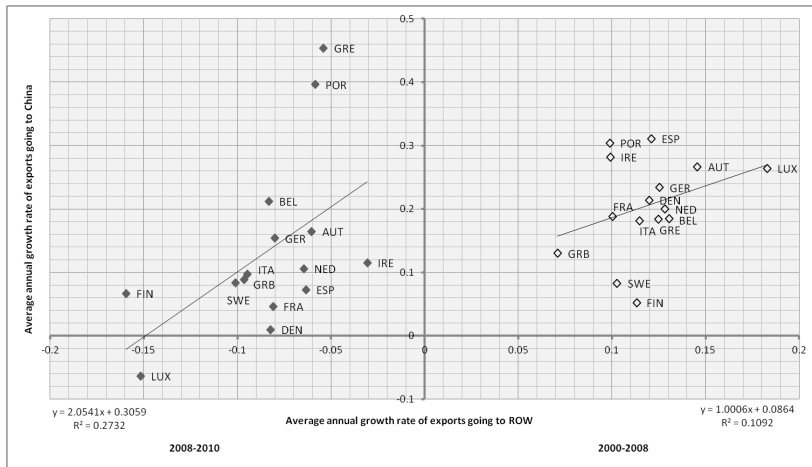
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Outline

- 1 Stylized facts
- 2 Hypotheses and empirical strategy
- 3 Results and summary

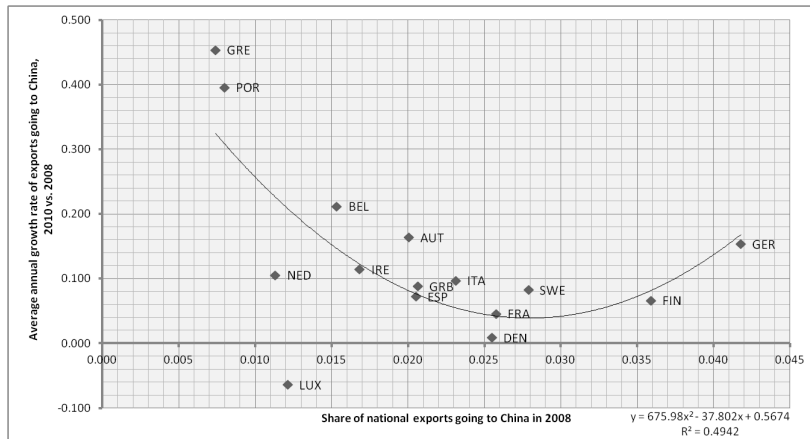
Europe's post-crisis export growth to RoW is associated with post-crisis export growth to China



First set of interpretations

- **“China is the only game in town after the crisis”** explains that export growth to China is positive for most EU-15 economies and export growth to RoW is negative.
- **Export supply side characteristics** (e.g. trade finance and government spending) are likely to explain (post-crisis) association of export growth to RoW and to China
- Post-crisis variance of export growth to China is larger than the pre-crisis variance suggesting that something else is going on. **Could that something be protectionism? Or differential impact in some other Chinese crisis policy?** (The variance of export growth to RoW remains similar suggesting that it is Chinese characteristics driving the increased variation.)

Lower pre-crisis exposure to China is associated with higher export growth to China post-crisis



Second set of interpretations

- There is **post-crisis convergence of export exposure to China** for all, except Germany and Finland.
- For Germany and Finland there is either a **threshold export share story** (i.e. once export share to China exceeds a certain level, exports grow faster) or a **composition of trade story** (e.g. Germany and Finland benefited most from the Chinese stimulus package).

Hypotheses

Export supply factors:

- H1a: Higher government consumption leads to higher exports (home market effect, Krugman 1979).
- H1b: Higher government consumption leads to lower exports (crowding out effect).
- H2: More state aid leads to higher exports.
- H3: Higher productivity leads to higher exports.

China-specific factor:

- H4: If China becomes more important in the world economy, export exposure to China increases (gravity explanation).

Hypotheses (cont.)

Bilateral factors:

- H5: If the Chinese yuan appreciates against the exporter's currency, export exposure to China increases.
- H6: If exporters produce what China demands, export exposure to China increases (composition effect).
- H7: If China provides export subsidies (and emerges as a giant manufacturer) while the exporters produce what China demands (in that case e.g. intermediates), export exposure to China increases.

Hypotheses (cont.)

Bilateral factors (cont.):

- H8: Commercial diplomacy with China increases export exposure to China.
- H9: Offending action against China (such as initiations of AD investigations) lowers export exposure to China
- H10: Import restrictions of China lower export exposure to China

Descriptive statistics						
Exp. effect	Variable	Obs	Mean	Std. Dev.	Min	Max
	Share of national exports going to China, in %	165	1.93	1.21	0.20	6.42
H1	+/- Government consumption expenditure, normalized by GDP	165	0.21	0.03	0.14	0.30
H2	+ Total non-crisis state-aid (excl. agriculture, fishery and transport), normalized by GDP	165	0.45	0.24	0.10	1.30
H3	+ Hourly compensation costs in manufacturing, 3 lags, indexed (100=Germany in 1997)	165	86.71	32.17	20.09	163.88
H4	+ China's share of world GDP, in %	165	5.75	1.85	3.71	9.39
H5	+ Nominal exchange rate (CHY/FCU), indexed (2000=100)	165	121.74	15.67	85.10	140.73
H6	- Difference in composition index	165	0.15	0.07	0.02	0.35
H7	- Interaction term of share of VAT export rebates and difference in composition index	165	0.45	0.23	0.05	1.15
H8	+ No of high level visits to China, current and 1 lag	165	1.59	1.79	0	9
H9	- No of initiations of AD investigations against China (by nationality of complaining firms), ever initiated, 1 lag	165	12.10	14.09	0	51
H10	- No of initiations of AD investigations of China, ever initiated, 1 lag	165	0.99	1.81	0	8

Two step empirical strategy

First stage regression (for 2000-2010):

$$s_{j,t} = \text{const} + \text{supply}_{j,t} + \text{china}_t + \text{bilateral}_{j,t} + \varepsilon_{j,t}$$

To what extent China's crisis-era trade policies explain the remaining variation (H10+)?

Second stage regression (for 2008-2010; GTA data for crisis-era policies):

$$\varepsilon_{j,t} = \text{const} + \text{discriminatory}_{j,t} + \text{liberal}_{j,t} + \mu_{j,t}$$

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First stage regression results

Dependent variable: Share of national exports going to China, in %

	Full	w/o Germany and Finland
Government consumption expenditure, normalized by GDP	3.870 (2.481)	10.81*** (1.658)
Total non-crisis state-aid (excl. agriculture, fishery and transport), normalized by GDP	0.637* (0.348)	-0.144 (0.218)
Hourly compensation costs in manufacturing, 3 lags, indexed (100=Germany in 2000)	-0.00138 (0.00348)	0.00201 (0.00191)
Difference in composition index	-7.036* (3.649)	-2.416 (1.815)
Interaction term of share of VAT export rebates and difference in composition index	-0.543 (1.103)	-0.310 (0.672)
China's share of world GDP, in %	0.268*** (0.0916)	0.250*** (0.0559)
Nominal exchange rate, indexed (2000=100)	5.46e-05 (0.00484)	-0.00231 (0.00267)
No of high level visits to China, current and 1 lag	-0.0621 (0.0522)	0.146*** (0.0346)
No of initiations of AD investigations against China (by nationality of complaining firms), ever initiated, 1 lag	0.00668 (0.00469)	0.0100*** (0.00311)
No of initiations of AD investigations of China, ever initiated, 1 lag	0.216*** (0.0578)	-0.335*** (0.0659)
Constant	0.509 (1.076)	-1.560*** (0.419)
Observations	165	143
No of fitted values < 0	2	0
No of fitted values > 100	0	0
R-squared	0.528	0.728

HC3 standard errors (suggested by Davidson and MacKinnon, 1993) in parentheses

*** p<0.01, ** p<0.05, * p<0.1

**Contribution to change in share of national exports going to China between 2008-2010, in %
(calculations w/o GER and FIN)**

	Av.	BEL	FRA	GRE	ITA	POR	ESP	GBR
Change in share of national exports going to China between 2008-2010, in percentage points	0.80	1.12	0.74	0.99	1.05	0.94	0.62	0.90
Change in share of national exports going to China between 2008-2010, in %	52.28	72.78	28.56	133.80	45.24	117.75	30.26	43.76
Government consumption expenditure, normalized by GDP	24.61	10.38	23.45	0.62	10.93	17.49	27.83	12.44
Total non-crisis state-aid (excl. agriculture, fishery and transport), normalized by GDP	-1.68	-2.58	-3.91	-4.35	1.38	0.00	0.00	0.00
Hourly compensation costs in manufacturing, 3 lags, indexed (100=Germany in 2000)	5.69	4.01	5.45	3.10	2.67	1.21	4.50	4.20
Difference in composition index	-4.39	-1.51	-0.33	-6.04	-4.30	-1.97	-2.77	-4.47
Interaction term of share of VAT export rebates and difference in composition index	-4.88	-3.05	-2.32	-5.84	-3.92	-3.80	-4.61	-3.68
China's share of world GDP, in %	76.06	44.93	68.13	50.55	47.96	53.44	80.78	55.48
Nominal exchange rate, indexed (2000=100)	5.88	3.47	5.27	3.91	3.71	4.13	6.25	5.07
No of high level visits to China, current and 1 lag	9.33	-13.08	39.66	-14.71	-13.96	0.00	0.00	32.29
No of initiations of AD investigations against China (by nationality of complaining firms), ever initiated, 1 lag	3.34	3.58	9.51	1.01	5.74	2.13	8.05	0.00
No of initiations of AD investigations of China, ever initiated, 1 lag	-8.81	0.00	-45.50	0.00	-32.03	0.00	0.00	-37.05
Residual	-5.13	53.84	0.59	71.76	81.84	27.37	-20.03	35.72

Second stage regression results

Dependent variable: Residual of first stage regression; observations before crisis (2009) dropped

full			
No of discriminatory measures implemented by China	0.171 (0.109)		
No of beneficial measures implemented by China	-0.352 (0.265)		
No of sectors affected by discriminatory measures of China		-0.487 (1.265)	
No of sectors affected by beneficial measures of China		0.0304 (0.0753)	
No of red and murky measures implemented by China			0.559 (0.954)
No of red tariff or trade defence measures implemented by China			0.00878 (0.0921)
Constant	-0.972 (0.809)	18.95 (49.37)	-3.403 (5.803)
Observations	30	30	30
R-squared	0.090	0.029	0.051

w/o Germany and Finland			
No of discriminatory measures implemented by China	0.0367 (0.0590)		
No of beneficial measures implemented by China	0.0294 (0.154)		
No of sectors affected by discriminatory measures of China		-1.187* (0.584)	
No of sectors affected by beneficial measures of China		0.0582* (0.0322)	
No of red and murky measures implemented by China			-1.208** (0.454)
No of red tariff or trade defence measures implemented by China			0.0831* (0.0440)
Constant	-0.476 (0.545)	46.05* (22.79)	7.069** (2.735)
Observations	26	26	26
R-squared	0.055	0.382	0.386

HC3 standard errors (suggested by Davidson and MacKinnon, 1993) in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Summary

- China's importance in the world economy is an important predictor of EU-15 export exposure to China - gravity prediction (statistical significance).
- “China is the only game in town” is the most important factor of change in export share since the crisis (economic significance).
- “Home market effect” story is supported.
- “Export what China demands” (composition) matters for export exposure to China; if all EU-15 countries are considered.

Summary (cont.)

- Commercial diplomacy is effective; if Germany and Finland not considered
- China's trade defence measures (i.e. AD initiations) lower export exposure; if Germany and Finland not considered.
- Chinese crisis-era protectionism (in particular “murky” protectionism) lowers export exposure; if Germany and Finland are not considered

Thank you for your attention.