When time matters: Eastern Europe's response to Chinese competition

Andrea Ciani
JRC of the European Commission
Ispra

Karsten Mau
Maastricht University
SBE

Global Economic Policy Group Meeting 2021
Session on 'Asian Economy and Trade'

Background

▶ The **global fragmentation of production** and the rise of **China** have been of central interest for economic research in recent decades (and they continue to be)
  - 1990s and early 2000s: emerging offshoring literature and China's WTO entry
  - Today: trade war, Covid-19, debates on re-shoring of (key-)industries?

▶ The two are related: much of Chinese exports goes to distant high-income markets
  - implies relatively long **delivery times**
  - potentially problematic for goods that are **customized**, require **quick processing**, or where **demand fluctuations** less predictable

▶ Relevant for economies **competing** with China but located **closely** to main destination markets
  - for example, **Eastern European** exporters selling in the EU15 might benefit from a 'comparative advantage' in **timely delivery**
  - in contrast: **other Asian LWCs** cannot compete along this dimension

Analyze ESE* exports to EU15 markets during 1998-2007

* ESE = 16 Eastern and Southeast European countries, eight of them became full EU members in 2004

1. Estimate impact of **increased Chinese competition** in EU15 markets
   - About 13% reduction of ESE export revenues for a s.d. increase of China's share within narrow HS6 product-destination markets
   - Auxiliary firm-level sample for Bulgaria: reduction of export revenues by 2.31% due to Chinese competition between 2001-2006
   - Document heterogeneous responses across exporting countries and firms

2. Look for patterns of resilience to competition in **time-sensitive** industries
   - Product-level data: displacement 40-60% smaller
   - For exporters more distant to the EU15, as Bulgaria, positive effects of time sensitivity are **less** pronounced but still there
   - Pattern exclusive to ESE exporters: cannot be confirmed for other Asian exporters
   - Orthogonal to differential effects attributed to other industry characteristics (e.g. skill-intensity, contracting intensity, etc.)

⇒ Findings highlight economic relevance of "local comparative advantage"
   - not only skills but also logistical and procedural infrastructure matter
   - timely processing and smooth procedures relevant also in contemporary debates

Figure 1: ESE exports and Chinese expansion in time-sensitive vs. time-insensitive sectors

(a) ESE export revenues (b) Time-sensitive vs Time-insensitive
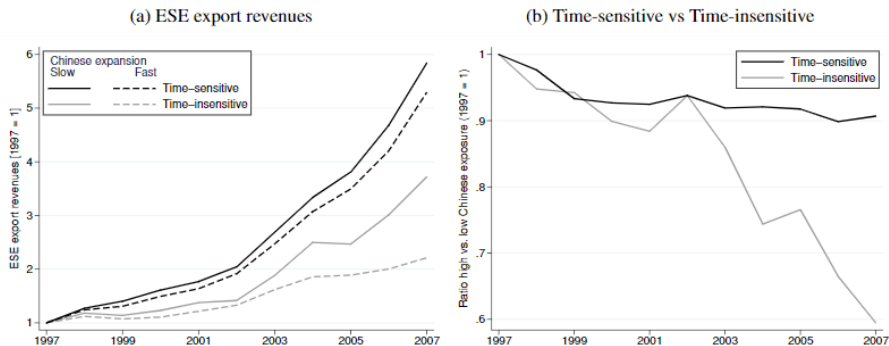
Note: Authors' calculations based on the strict measure of time-sensitivity. Time-sensitive denotes those sectors reporting time sensitivity above median. Panel (a) denotes aggregate export revenues in respective groups, relative to base year (1997). Panel (b) displays the ratio of ESE exports in fast-versus-slow expansion sectors, normalized to base year (1997). Chinese expansion is measured as average annual change in import market shares over the sample period. Fast (slow) expansion denotes HS6 products with above (below) median Chinese expansion within respective time-sensitivity group.

Table 2: China's impact on ESE export values, product-level estimates, 1997-2007

	(1)	(2)	(3)	(4)	(5)	(6)
	Baseline specification		Alternative IV: US PNTR		Alternative IV: MFA Quotas	
Dep. var.: log export revenue	OLS	2SLS	Red. form	2SLS	Red. form	2SLS
Main results: OLS and second stage						
China (s_{jkt}^{CN})	-1.222**	-2.343**		-2.807**		-2.648**
	(0.036)	(0.158)		(0.398)		(0.314)
US PNTR			-1.119**			
			(0.167)			
MFA Quota fill rate					-1.161**	
					(0.126)	
Import demand	0.569**	0.576**	0.560**	0.579**	0.530**	0.578**
	(0.006)	(0.006)	(0.006)	(0.007)	(0.010)	(0.012)
First stage results for s_{jkt}^{CN}		Baseline		US PNTR		MFA
Baseline: $s_{nkt}^{CN} \times w_j$		1.830**				
		(0.054)				
Alt. IV: US PNTR				0.399**		
				(0.022)		
Alt. IV: MFA Quota fill rate						0.438**
						(0.030)
Observations	1,628,298	1,628,298	1,628,298	1,628,298	399,507	399,507
N. Clusters	44,669	44,669	44,669	44,669	9,866	9,866
Kleibergen-Paap (F-stat)		1,163.9		337.6		213.4

Note: Standard errors in parentheses clustered at product-destination level. Statistical significance: [a] = $p < 0.1$, * = $p < 0.05$, ** = $p < 0.01$. All specifications include exporter-importer-HS6 and exporter-importer-year FEs. Coefficients for log import demand suppressed in first stage results. Results in columns (5) and (6) are based on the subsample of textiles and clothing industries (HS Chapters 50-63).

Table 4: China's impact on ESE exports and time-sensitivity, product-level 1997-2007

Measure of time-sensitivity:	(1) binary (simple)	(2) binary (simple)	(3) binary (strict)	(4) binary (strict)	(5) binary (strict)	(6) binary (strict)
Specification:	Baseline		Baseline		add controls	
Dep. var.: log export revenue	OLS	2SLS	OLS	2SLS	OLS	2SLS
China's market share	-1.520**	-3.081**	-1.769**	-3.800**	-2.343**	-5.104**
	(0.043)	(0.163)	(0.046)	(0.180)	(0.106)	(0.370)
× time-sensitive	0.858**	2.547**	1.154**	3.340**	0.925**	2.986**
	(0.069)	(0.212)	(0.066)	(0.201)	(0.072)	(0.235)
× intermediate inputs					0.719**	1.648**
					(0.095)	(0.283)
× contract intensity					0.484**	1.324**
					(0.098)	(0.311)
× skill intensity					0.520**	0.994**
					(0.090)	(0.289)
Observations	1,628,298	1,628,298	1,628,298	1,628,298	1,628,298	1,628,298
N. clusters	44,669	44,669	44,669	44,669	44,669	44,669
Kleibergen-Paap (F-stat)		609.0		582.0		72.3

Note: Standard errors reported in parentheses are clustered at the product-destination level. Statistical significance: [a] = $p < 0.1$, * = $p < 0.05$, ** = $p < 0.01$. All specifications include log import demand as a control variable (coefficients suppressed) as well as exporter-importer-HS6 and exporter-importer-year FEs.

Table 5: Time-sensitivity estimates, placebo regressions and ESE distance to EU15

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable:	Low-wage Asia's exports (placebo)				ESE exports (distances to destination)			
Specification:	Baseline		add controls		$\leq 1,500$	$> 1,500$	bilateral distance	
Dep. var.: log export revenue	OLS	2SLS	OLS	2SLS	OLS	OLS	OLS	2SLS
China's market share	-0.834**	-0.770**	-1.064**	-1.083**	-2.141**	-1.100**	-2.139**	-5.091**
	(0.045)	(0.189)	(0.096)	(0.336)	(0.059)	(0.061)	(0.059)	(0.238)
× time-sensitive	0.350**	0.146	0.194**	-0.102	1.487**	0.577**	1.487**	4.347**
	(0.066)	(0.185)	(0.075)	(0.224)	(0.082)	(0.095)	(0.082)	(0.255)
× intermediate inputs			0.292**	0.656*				
			(0.085)	(0.255)				
× contract intensity			0.186*	0.322				
			(0.088)	(0.258)				
× skill intensity			0.561**	0.898*				
			(0.101)	(0.360)				
× distant$_{ij}$							1.030**	3.679**
							(0.079)	(0.321)
× time-sens. × distant$_{ij}$							-0.911**	-2.769**
							(0.118)	(0.351)
Observations	767,418	767,418	767,418	767,418	1,100,535	527,763	1,628,298	1,628,298
N. clusters	38,703	38,703	38,703	38,703	35,630	34,525	44,669	44,669
Kleibergen-Paap (F-stat)		431.5		86.5				296.2

Note: Standard errors reported in parentheses are clustered at the product-destination level. Statistical significance: $^a = p < 0.1$, $^* = p < 0.05$, $^{**} = p < 0.01$. All specifications include log import demand as a control variable (coefficients suppressed) as well as exporter-importer-HS6 and exporter-importer-year FEs. The variable distant$_{ij}$ takes a value equal to one for observed bilateral (population-weighted) distances of more than 1,500 kilometers in the CEPII Gravity Dataset.

More info

Take a closer look at our paper:

▶ check the conference portal (with full video presentation)

▶ or download it here

▶ or e-mail us

andrea.ciani@ec.europa.eu
k.mau@maastrichtuniversity.nl

Other recent work of mine

▶ On "Trade Induced Technical Chance: The Impact of Chinese Imports on Innovation, IT and Productivity" (with Doug L. Campbell) forthcoming at *Review of Economic Studies*

▶ Trade Shocks and Firms' Hiring Decisions: Evidence from Vacancy Postings of Chinese Firms in the Trade War (with Chuan He and Mingzhi Xu) R&R at *Labour Economics*

▶ One Belt, One Road, One Way? Where European Exporters Benefit from the New Silkroad (with Rosalie Seuren) under review

My website: https://kmau-econ.weebly.com/

Andrea's website: https://sites.google.com/site/andreacianiecon/home