

**Does a Currency Union Affect Trade?
Evidence from the Italian Unification
and the Franc Germinal Bloc
(1840-1880)**

19th October 2017

TOFLIT 18 Conference, Université Paris Dauphine

Roger Vicquéry

r.h.vicquery@lse.ac.uk

London School of Economics

Thesis Overview

Optimum Currency Areas and the Economic Consequences of Political Integration: Empirical Evidence from the 19th Century

- OCA framework, past examples of monetary integration
- Focus on Italy (Southern Question)

Three Papers:

- 1) Ex-Ante optimality of monetary integration processes in the 19th century
- 2) **The currency union effect on trade: evidence from the French monetary bloc in the 19th century (1840-1880) (Today, VERY PRELIMINARY!)**
- 3) Regional effects of external shocks and exchange rate regimes in Italy (1861-2017)

Overview and Motivation (1)

- Since Rose (2000) seminal paper (CU triples bilateral trade!), a large literature has attempted to “shrink” the CU effect on trade
- Particular concern is endogeneity and self selection: do countries that join a CU share some other unobservable characteristics biasing the gravity model?
- The paper attempts to contribute to this issue by exploiting the Italian unification, when military annexation exogenously led to CU membership, as a quasi-experiment

Overview and Motivation (2)

- Italian “Southern Question”: did the Italian custom union and monetary unification contributed to regional divergence as argued by Daniele and Malanima (2011)?
- No data on regional international trade pre and post unification
- The paper uses new archival and printed foreign sources to compile an international trade database for key Italian ports from the 1840s to up to 25 years post unification (value, by partner and product category)

Today

- 1) Historical background
- 2) Literature review on the CU trade effect
- 3) Data
- 4) Preliminary results
- 5) Issues and next steps

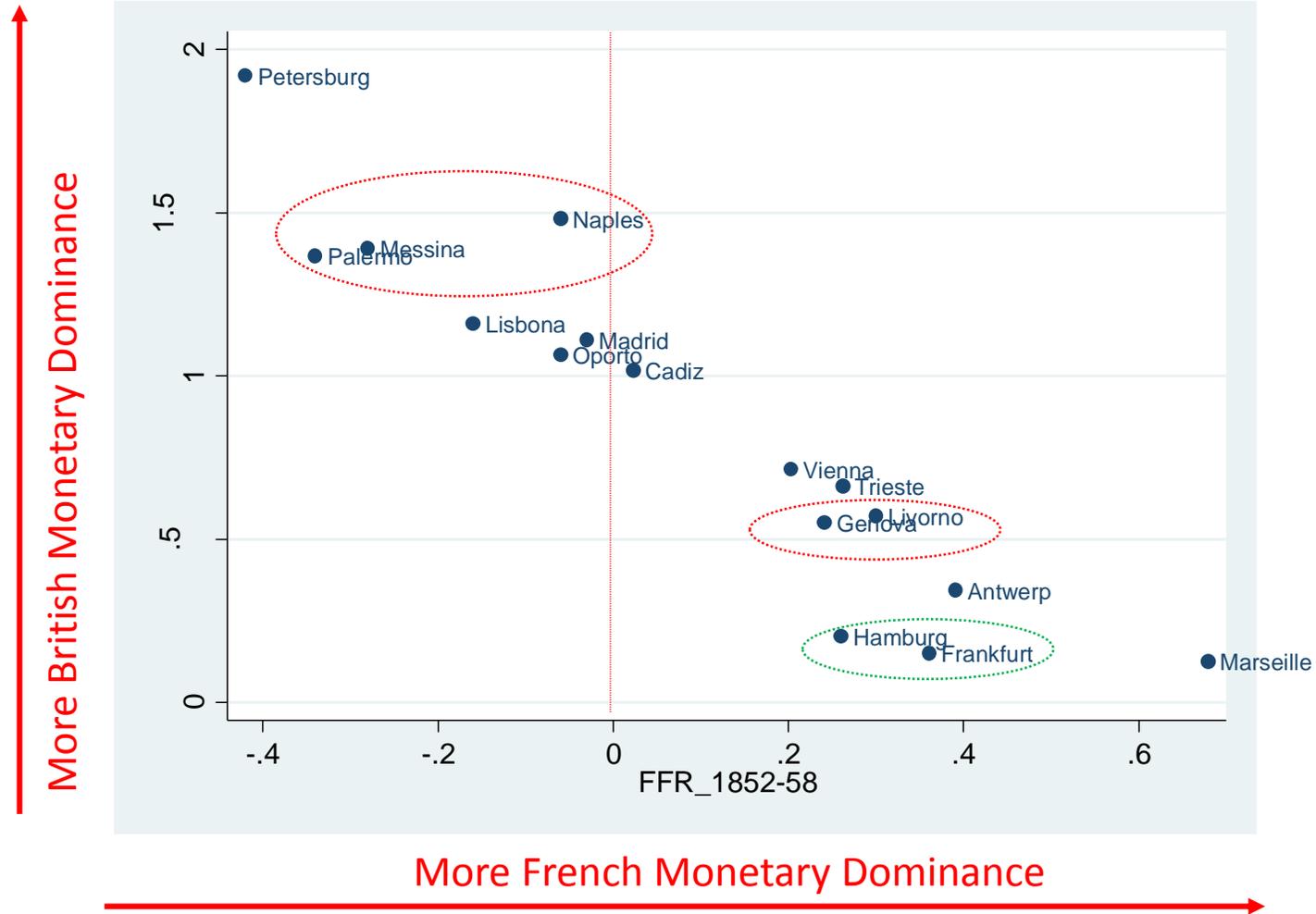
The Italian Unification Process (1)

- 1858: France agrees to support Sardinia's military expansion in the Italian peninsula, the goal being the creation of a loose confederation of Italian states under French (and Sardinian) dominance
- 1858-1862: annexation and full political and economic unification with Tuscany, the Two Sicilies and part of the Papal and Austrian Italian territories
- The annexation of the South is largely due to “random” military events and geopolitical considerations (threat of a revolutionary republic in Naples and Sicily)

The Italian Unification Process (2)

- As Sardinia was a member of the Franc Germinal bloc (a legacy of the Napoleonic period), the annexed territories entered at the same time into an Italian monetary union and an international monetary bloc composed by France, Belgium and Switzerland
- I argue the creation of this rather heterogeneous currency arrangement to be exogenous:
 - Military annexation
 - Weak integration of pre-unitary Italian states (Federico and Tena, 2013)
 - Particularly true for Southern Italy which I find to be under British monetary dominance in the pre-unification period in a separate paper

Monetary Blocs (1852-1858)



The Franc Germinal and the Latin Monetary Union (1): Choice of Treatment

- I employ adoption of a Franc Germinal bimetallic currency system as a “CU treatment”:
 - Sardinia and Belgium since early 19th century
 - Switzerland in 1852, unified Italy in 1863, Papal States in 1866, Greece in 1868
- Not a complete currency union but interchangeable use of metallic currency across Franc Germinal countries → lower transaction costs
- LMU is about harmonization of small denomination coins metallic content → Fiscal concerns rather than reduction in international trade transaction costs

The Franc Germinal and the Latin Monetary Union (2): Issues

- Beside metallic content, decimal system
- Issue of paper currency: following the 1866 war with Austria, Italy starts to monetize its deficit and suspends the convertibility of paper currency into metal
- Depreciation of paper currency but metal still employed for international transactions (foreign bond holders are still paid in gold for example)
- More work needed to understand how to treat inconvertibility

Gravity Equation and Currency Areas (1)

- Rose (2000): adds a CU dummy to gravity model, 300% effect, later revised down to 200% (Glick and Rose, 2003)
- First attempts to “shrink” the CU effect:
 - Persson (2001): endogeneity bias, CU effect reduced to between 65% and 13% using matching techniques.
 - Tenreyro (2001): 50% non statistically significant, instrumental variable to address endogeneity.
- Micco et al. (2003): early effect of the EMU between 4 and 16%, diff-in-diff framework
- Rose (2016): positive CU effects robust to latest improvements in the gravity equation econometrics

Gravity Equation and Currency Areas (2)

- Most complete gravity equation (Eicher and Henn, 2011) reads:

$$\text{Log}(\text{Imports}_{m\text{t}x}) = \alpha_{m\text{x}} + \delta_{m\text{t}} + \lambda_{x\text{t}} + \beta_1 \text{CU}_{m\text{x}\text{t}} + \gamma \mathbf{T}_{m\text{x}\text{t}} + \varepsilon_{m\text{x}\text{t}}$$

- $\alpha_{m\text{x}}$: absorb any time invariant observable (distance...) and non observable characteristics (endogeneity?) within importer-exporter pairs
- $\delta_{m\text{t}}$ and $\lambda_{x\text{t}}$: absorb any time variant observable (business cycle, GDP size...) and unobservable (multilateral trade resistance...) for each importer (exporter) vis-à-vis all exporters (importers)
- \mathbf{T} : vector of pair specific time varying controls (free trade agreement, FX volatility, colonial relationship...)

Data (1)

- Use data from foreign sources to compare international trade patterns in Italian regions before and after unification
- *États de Commerce et de Navigation*: detailed statistics on the bilateral trade port activity of the catchment area of each French consulate abroad, in principle sent each year to the Quai d'Orsay, which transmitted a copy to the Trade Ministry.
- Unfortunately a large number of them are missing from the Foreign Ministry archives
- No sign of them at the *Archives Nationales* (Trade Ministry section)

Data (2)

- Fortunately materials from the *États de Commerce* were regularly reproduced in the *Annales du Commerce Extérieur*, published by the Trade Ministry for each country since the mid-19th century
- Unfortunately the level of detail as well as the frequency of inclusion of bilateral trade data are relatively heterogeneous across Italian ports, particularly after unification
- For a majority of observations a product / partner matrix is available, all data are in value (FFR) but for few observations prices and quantities are given

Data (3)

- The dataset is so far composed of bilateral trade data reported in 7 Italian ports between 1840 and 1880
- So far I have digitized around 2,150 bilateral trade observations (some available years still missing)
- Very few reports of post-unification intra Italian trade

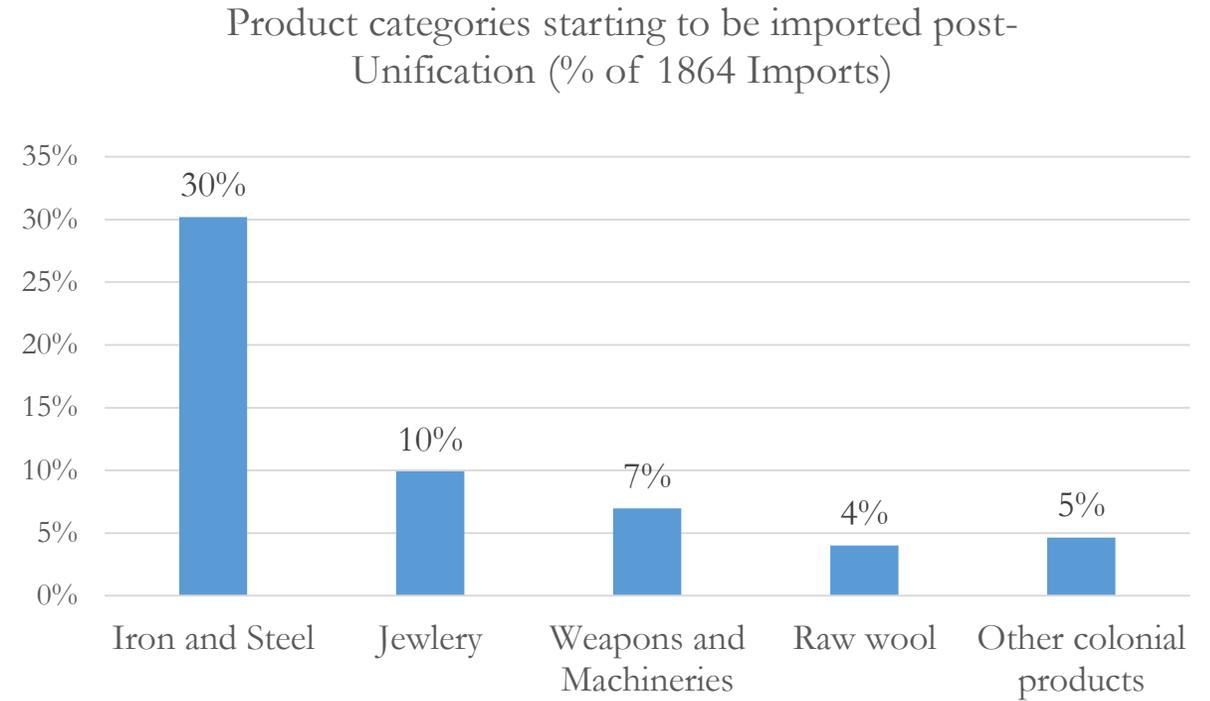
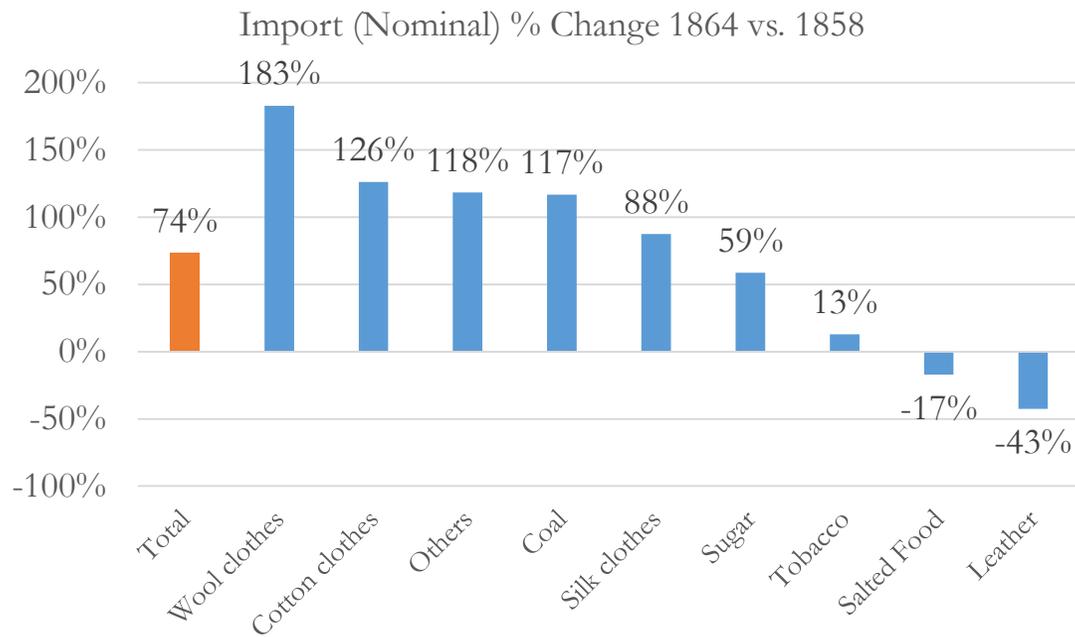
Port	Pre-Unitary Polity	Availability		
		Across all Years	Pre-Unification	Post-Unification
Civita Vecchia	Papal-States, Italy in 1871	39%	50%	33%
Ancona	Papal-States, Italy in 1861	41%	61%	15%
Leghorn	Tuscany	44%	50%	40%
Genoa	Sardinia	72%	83%	67%
Palermo	Sicily (Two Sicilies)	52%	30%	77%
Messina	Sicily (Two Sicilies)	30%	30%	40%
Southern Italy (Continent)	Naples (Two Sicilies)	31%	33%	20%

Southern Italy Trade Structure Pre and Post-Unification

- A preliminary analysis of the changes in the international trade structure seems to confirm the traditional view on the negative effects of liberalisation on the Southern industry
- There is strong evidence of local production substitution through imports in heavy manufacturing
- However there is also evidence of a substantial increase in exports values

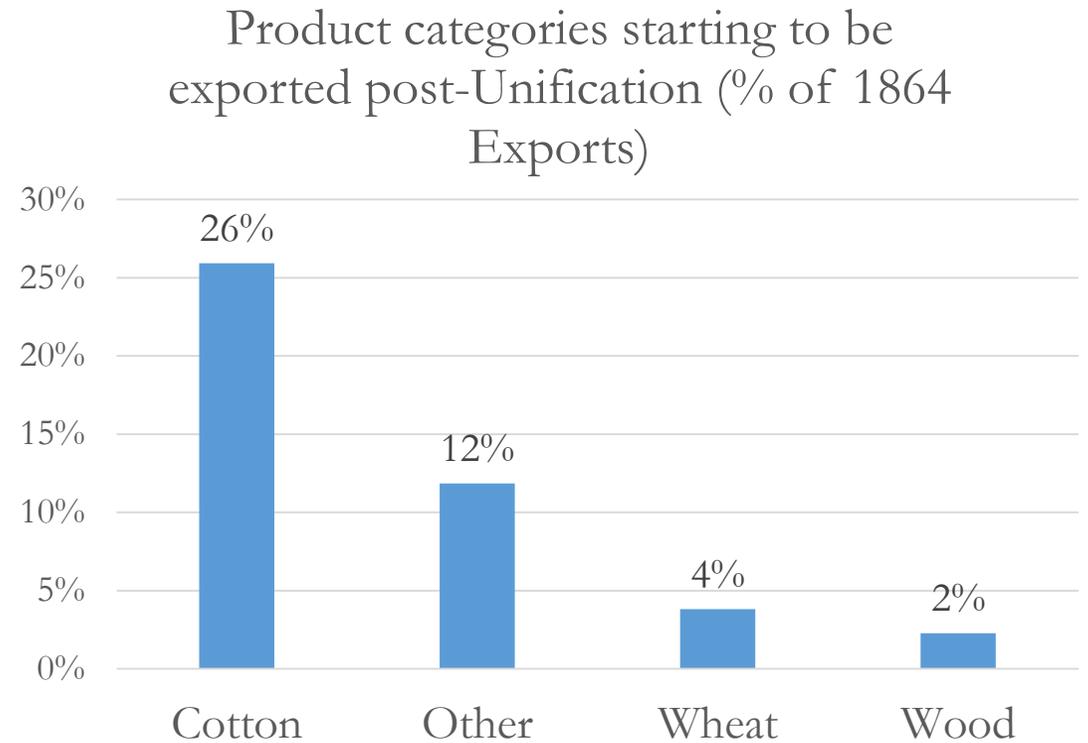
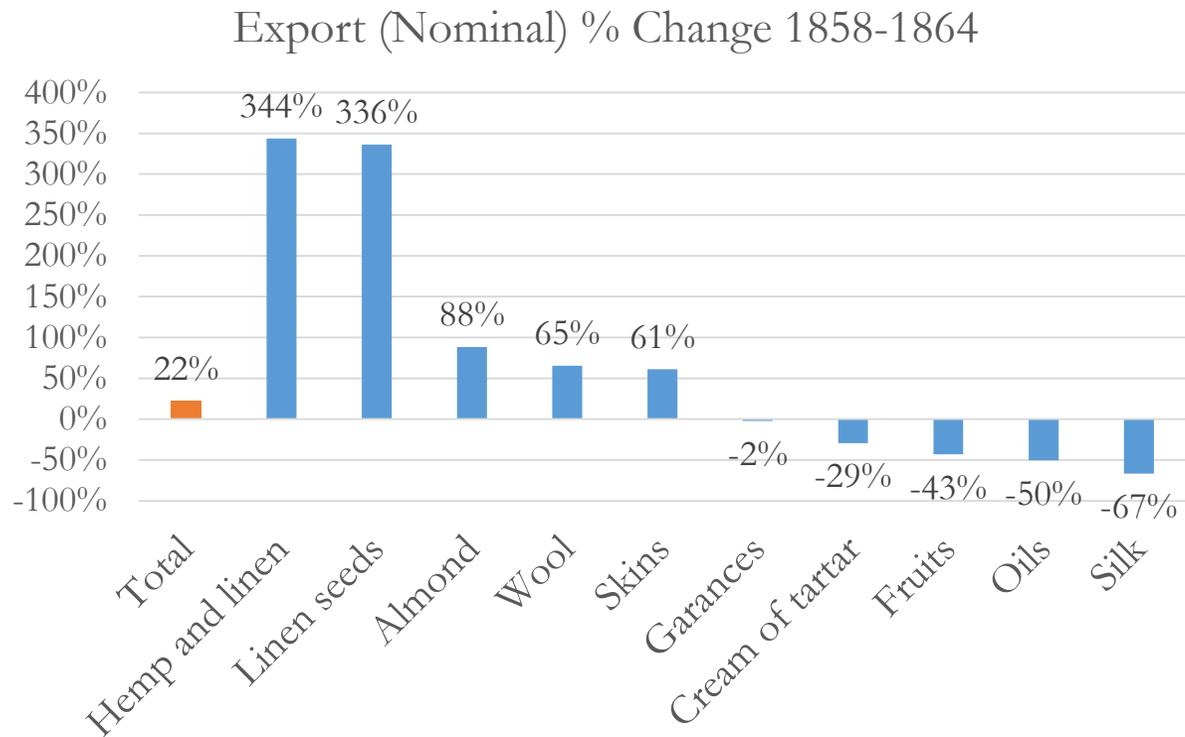
Southern Italy Trade Structure Pre and Post-Unification (Imports)

- The sudden application of the Northern low tariffs changed dramatically the Southern trade structure



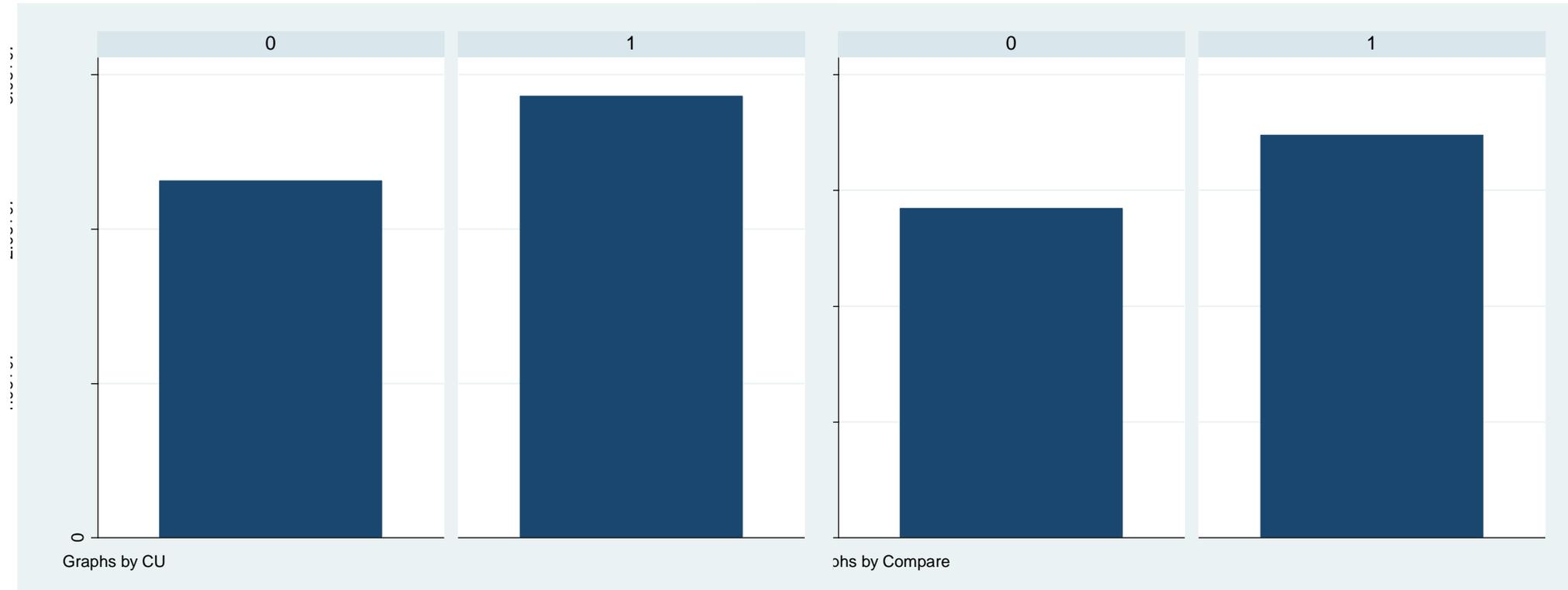
Southern Italy Trade Structure Pre and Post-Unification (Exports)

- The sudden application of the Northern low tariffs changed dramatically the Southern trade structure



CU Effect Estimation (1)

- «Treatment» vs. «Control»



CU Effect Estimation (2)

$$\text{Log}(\text{Imports}_{m\text{t}x}) = \alpha_{m\text{x}} + \delta_{m\text{t}} + \lambda_{x\text{t}} + \beta_1 \text{CU}_{m\text{x}\text{t}} + \gamma \mathbf{T}_{m\text{x}\text{t}} + \varepsilon_{m\text{x}\text{t}}$$

- The dataset is still to be completed in terms of covariates \mathbf{T} (none included here)
- Recall however that in the fullest specification of the gravity equation three way fixed effects absorb most of the typical controls (distance, GDP size, language, border...)

CU Effect Estimation (3)

$$\text{Log}(\text{Imports}_{mxt}) = \alpha_{mx} + \delta_{mt} + \lambda_{xt} + \beta_1 \text{CU}_{mxt} + \gamma \mathbf{T}_{mxt} + \varepsilon_{mxt}$$

- Beside the «standard» CU dummy, I test for different effects from endogenous vs. exogenous monetary integration
 - Sardinia and France, Belgium and France... : CU_endogen
 - Southern Italy and France, Belgium and Tuscany...: CU_exogen
- Hypothesis: weaker effect on trade if monetary integration is exogenous

Dependent variable: Log of Imports

	(1)	(2)	Implied CU Effect on Trade
CU	1.157** (0.610)		218%
CU_endogen		1.988*** (0.804)	630%
CU_exogen		0.496 (0.767)	64%
Pair Fixed Effect	YES	YES	
Importer Time Varying Fixed Effect	YES	YES	
Exporter Time Varying Fixed Effect	YES	YES	
Three Way Fixed Effects F Test	4.035	4.198	
Within Adj. R2	0.014	0.026	
Adj. R2	0.66	0.66	
Observations	963	963	

CU Effect Estimation (4)

- (Very) preliminary evidence in favour of the endogeneity hypothesis of CU trade benefits
- Obviously upward bias due to the absence of controls: particularly participation in free trade agreements, FX volatility

Issues and Next Steps

- 1) Increase size and «quality» of the sample
- 2) Intra Italian trade
- 3) Controls (Free Trade Agreements)
- 4) Interpretation of the treatment

Other options with the data

- Product / partner structure of the data
- Possible to look at the effect of trade liberalisation

Conclusion

- The dataset allows for the first time (to my knowledge) pre and post unification quantitative analysis of trade structure for Italian regions
- Some (very) preliminary evidence of endogeneity of the CU trade effect
- Still a number of issues: 1) Sample size 2) Intra Italian Trade 3) Data on Free Trade Agreements 4) Treatment identification 5) Other uses of data?

Thank You!