The Benefits of Labor Mobility in a Currency Union

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Discussion at the Sixth Annual ABFER Conference

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Important, timely and interesting questions

- Does labour market adjustment substitute for exchange rate adjustment?
- How does net migration compare between the US states, Canadian provinces and European countries?
- Are unemployment rate differences (temporal and spatial) associated with stronger net migration in North America than in Europe?
- Causality?

Important, timely and interesting questions

- Higher gross & net migration rates in US and Canada than in the EU
- Net migration out of high-unemployment areas in North America higher than in EU (big difference!)

- Involved DSGE search-and-matching multi-sector, multi-country model with migration and unemployment
  - A lot in the model!
  - Hand-to-mouth & optimizing households choose: location, n, C, K
  - Convex moving cost Φ
  - Firms produce final nontraded good using traded intermediate inputs. Intermediate goods constructed in 2-stage process: Cobb-Douglas & CES aggregation of varieties
  - Detailed labour market

Model

- Very large and involved search-and-matching multi-country model
- Intricate labour market modeling
- But migration cost is calibrated zero
- Look forward to seeing where the authors take the model: currently seems almost separate from the empirics
- Useful to think about migration in this framework. Some recent work:
  - Thoenissen and Smith (2017 WP): DSGE small open economy business-cycle model with human capital transmitted by migration
  - Bodenstein et al. (2016 WP): search-and-matching labour market in an otherwise standard small-open-economy DSGE framework to study
  - Sectoral (T vs NT) dimension of immigration seems relevant for crowding-out employment effects in the US (Burstein et al. 2017 WP)
- I would like to see some discussion of real exchange rate in the model

Why Double Demean?

- Deviations from state-specific mean *u* correlated with deviations from state-specific mean *migr*
- Cross-state differences matter, too:
  - institutional labor market differences between EU states
  - language and cultural differences between EU states
- Such low-frequency variables removed from the data by double-demeaning?
- Traditional "European rigidity" stories revolve around these considerations
- With decades of data, lower frequency should be informative

Exchange rates and labor mobility as substitutes

- Big and important question: is the Eurozone an optimal currency area?
- How *could* labor mobility substitute nominal exchange rate fluctuations?
  - Low vs. High frequency of adjustment?
- Better question: is labour mobility optimal given nominal price rigidities in the EZ?
  - Frequency of adjustment more aligned
  - Real exchange rate levels seem aligned with the fundamentals in the Eurozone, controlling for labor wedges.
- Rose (2010) effect: can you discuss pro-trade effects into model?

States vs. States

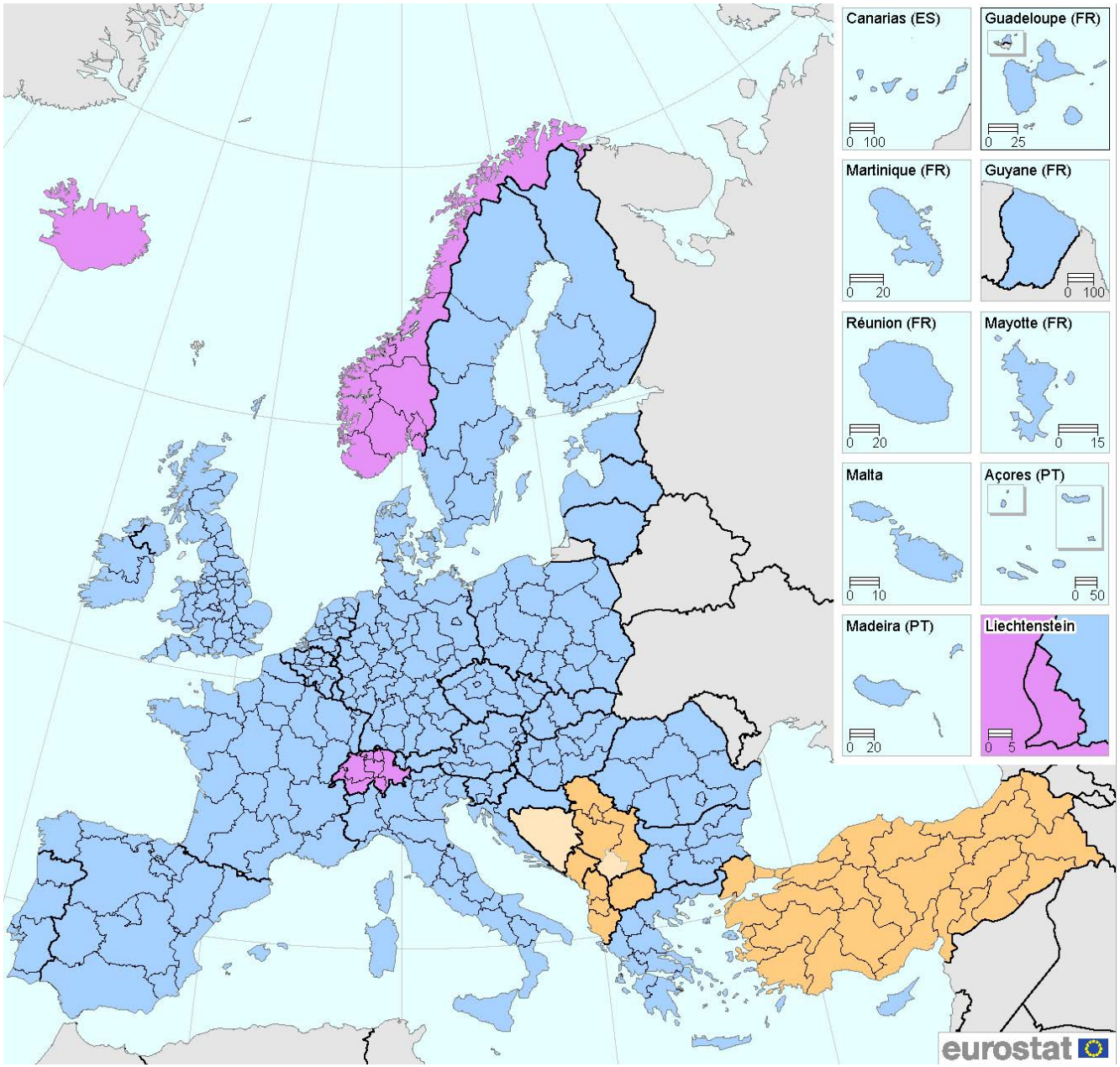
- Comparing intra- with inter-national
- Size heterogeneity and linguistic/legal heterogeneity
  - Without speaking the language, migration (sometimes within a country) need not help
  - If labour-market regulations prevent taking employment in another country, migration need not help
  - Potentially large unobserved internal (intra-national) migration
    - Can you treat the size heterogeity in your current regression?
- Use sub-national data?

NUTS

- Eurostat has an excellent (recent) regional database: Nomenclature of Territorial Units and Statistics (NUTS)
  - Level 1, 2, and 3: http://ec.europa.eu/eurostat/web/nuts/background
  - E.g.: Level 2
    - Max: Northrein-Westfalen, population 18m (Ontario = 13m, NY=20m)
    - Min: Åland (FI): 30k (YU = 36k, WY = 580k but US Samoa = 55k)
    - 

    - Number of sub-national units: 287 vs 50ish vs 13
  - Reasonably similar distribution of populations, as US/Canada but with larger total and longer history.
  - Allows to disentangle within- vs. between- country results in the EU
  - Downside: Data starts in 2005 (12 years, but large cross-section).

NUTS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Mayotte (FR)
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Açores (PT)
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Madeira (PT)
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Liechtenstein
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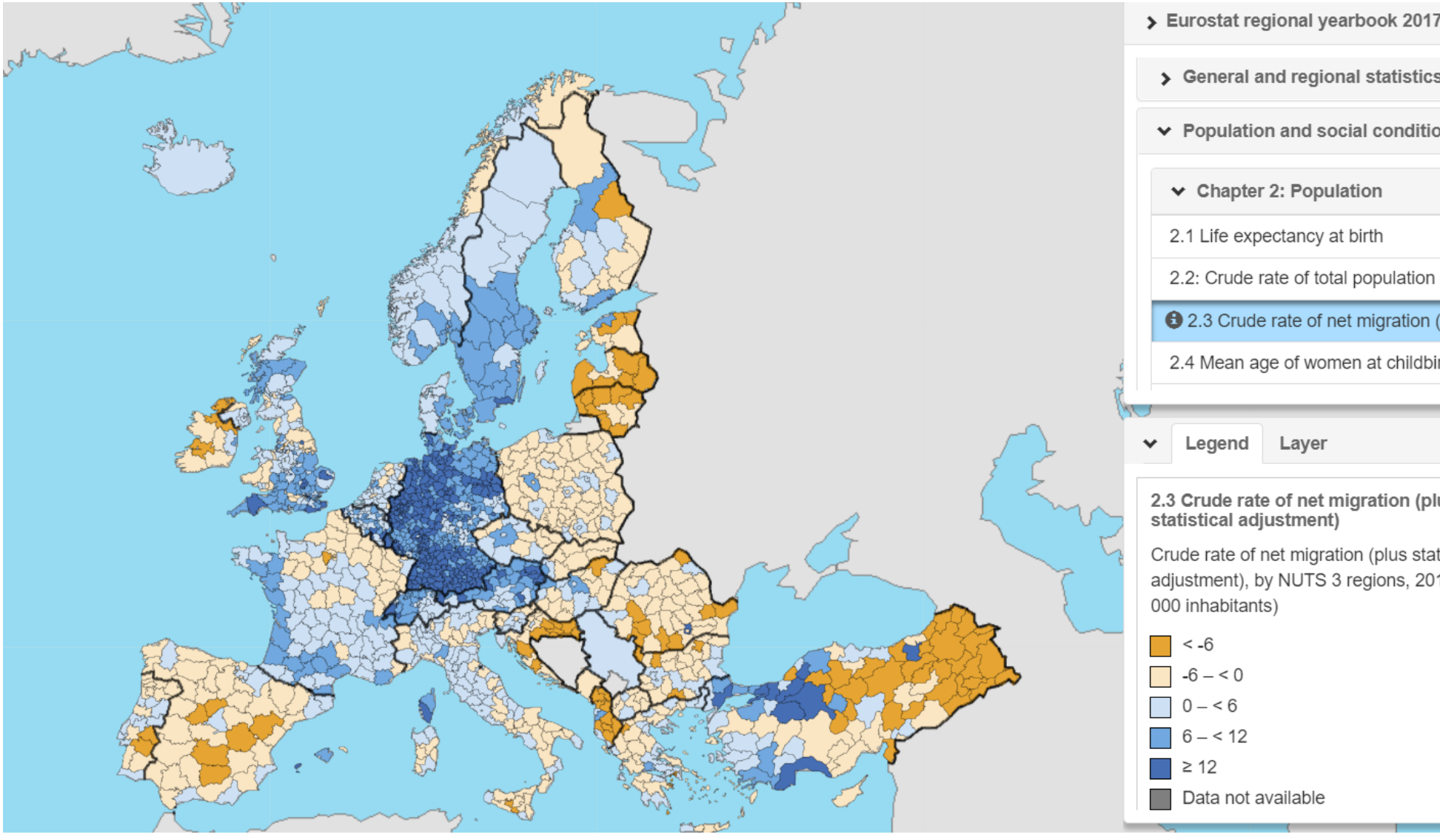
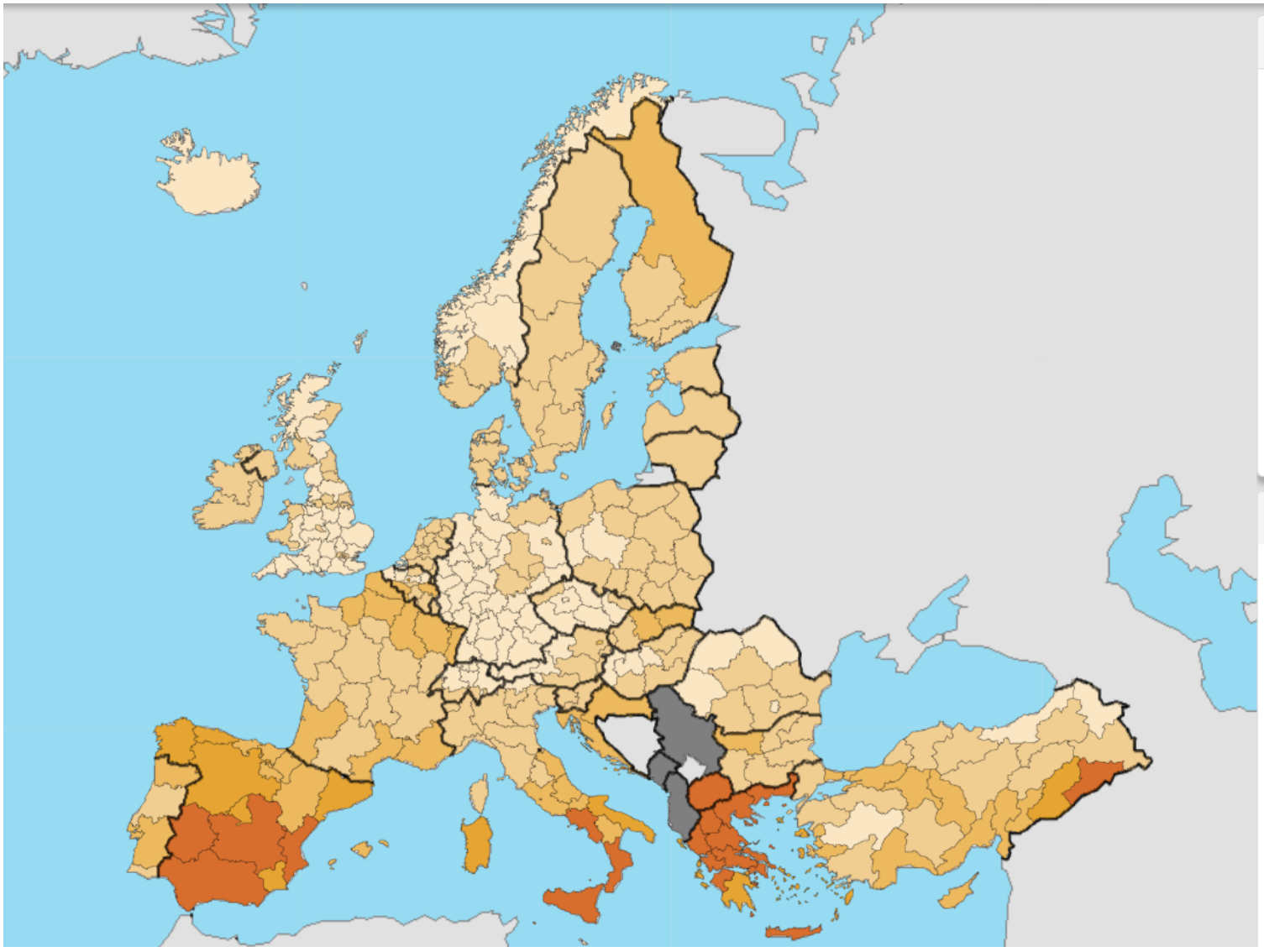
eurostat

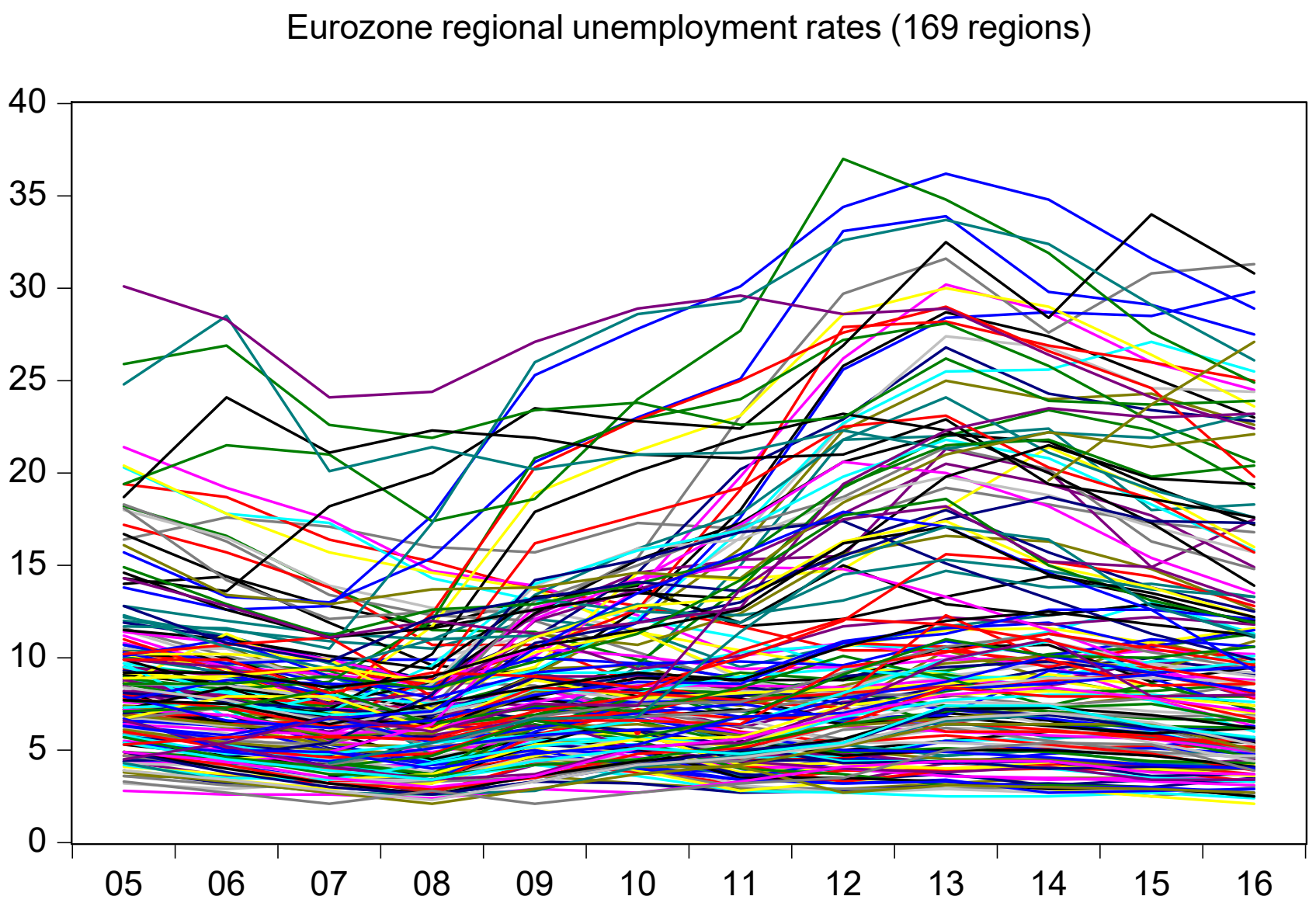
Migration


Eurostat regional yearbook 2017
General and regional statistics
Population and social conditio
Chapter 2: Population
2.1 Life expectancy at birth
2.2: Crude rate of total population
2.3 Crude rate of net migration (
2.4 Mean age of women at childbi
Legend
Layer
2.3 Crude rate of net migration (pl
statistical adjustment)
Crude rate of net migration (plus stat
adjustment), by NUTS 3 regions, 201
000 inhabitants)
< -6
-6 – < 0
0 – < 6
6 – < 12
≥ 12
Data not available

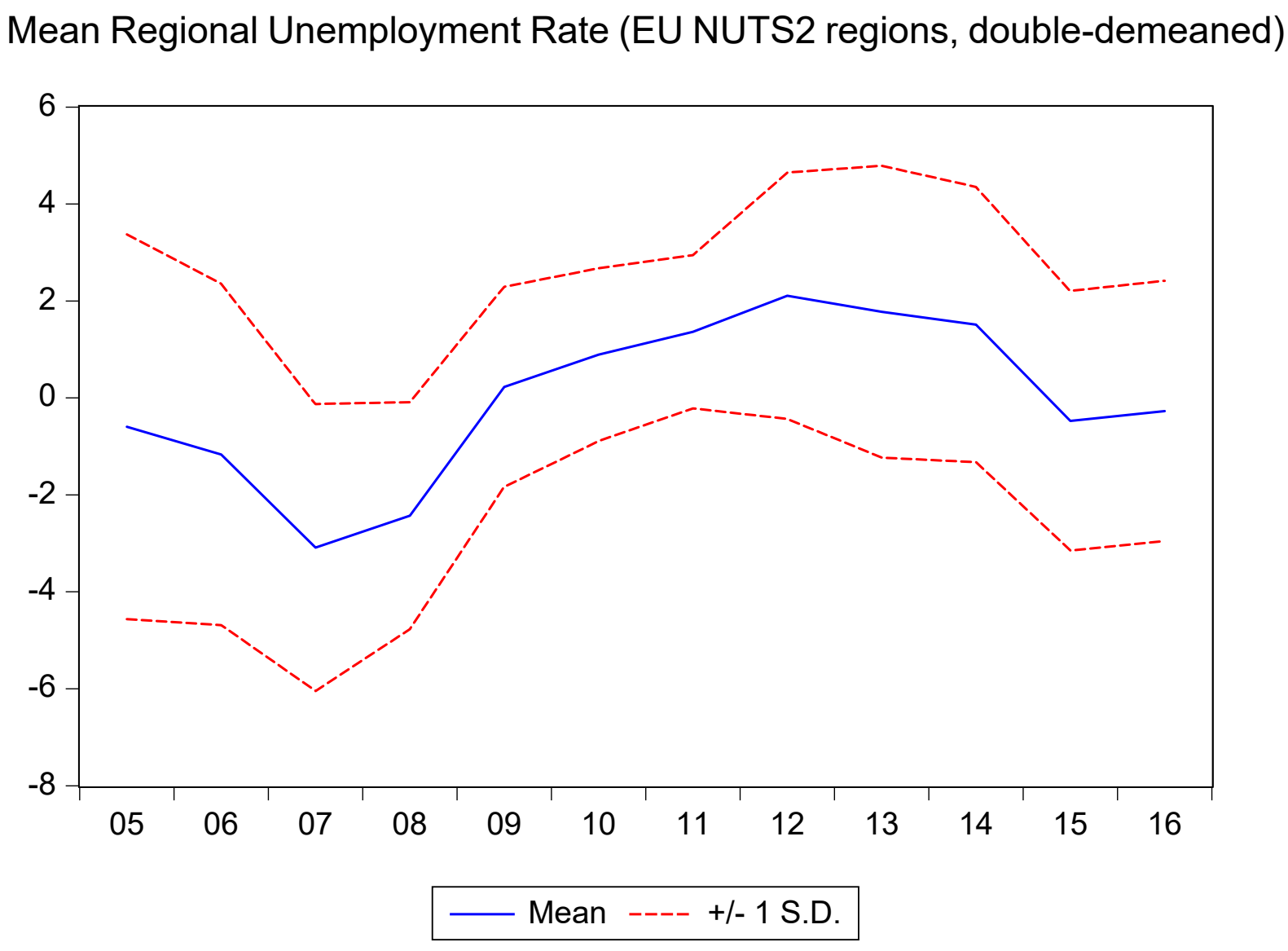
Unemployment



Unemployment

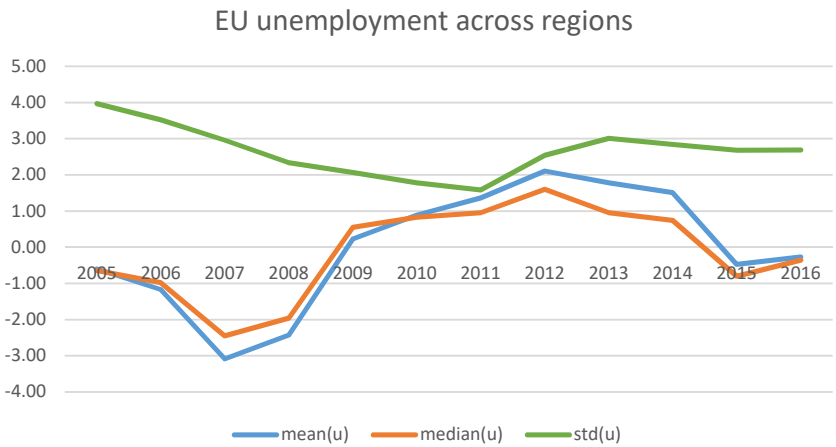


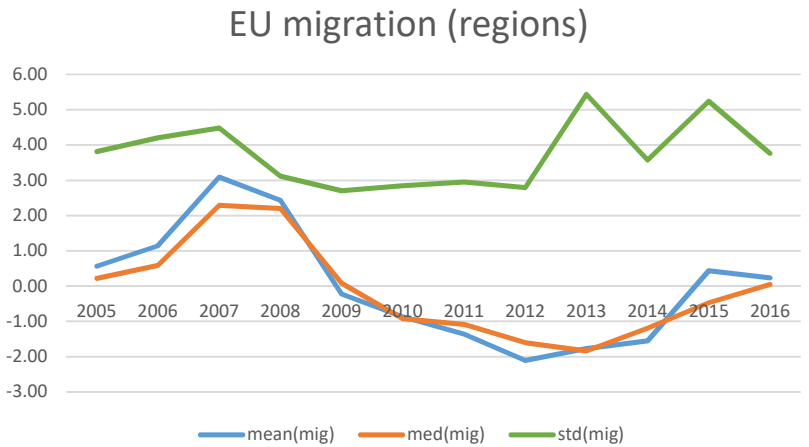
Unemployment



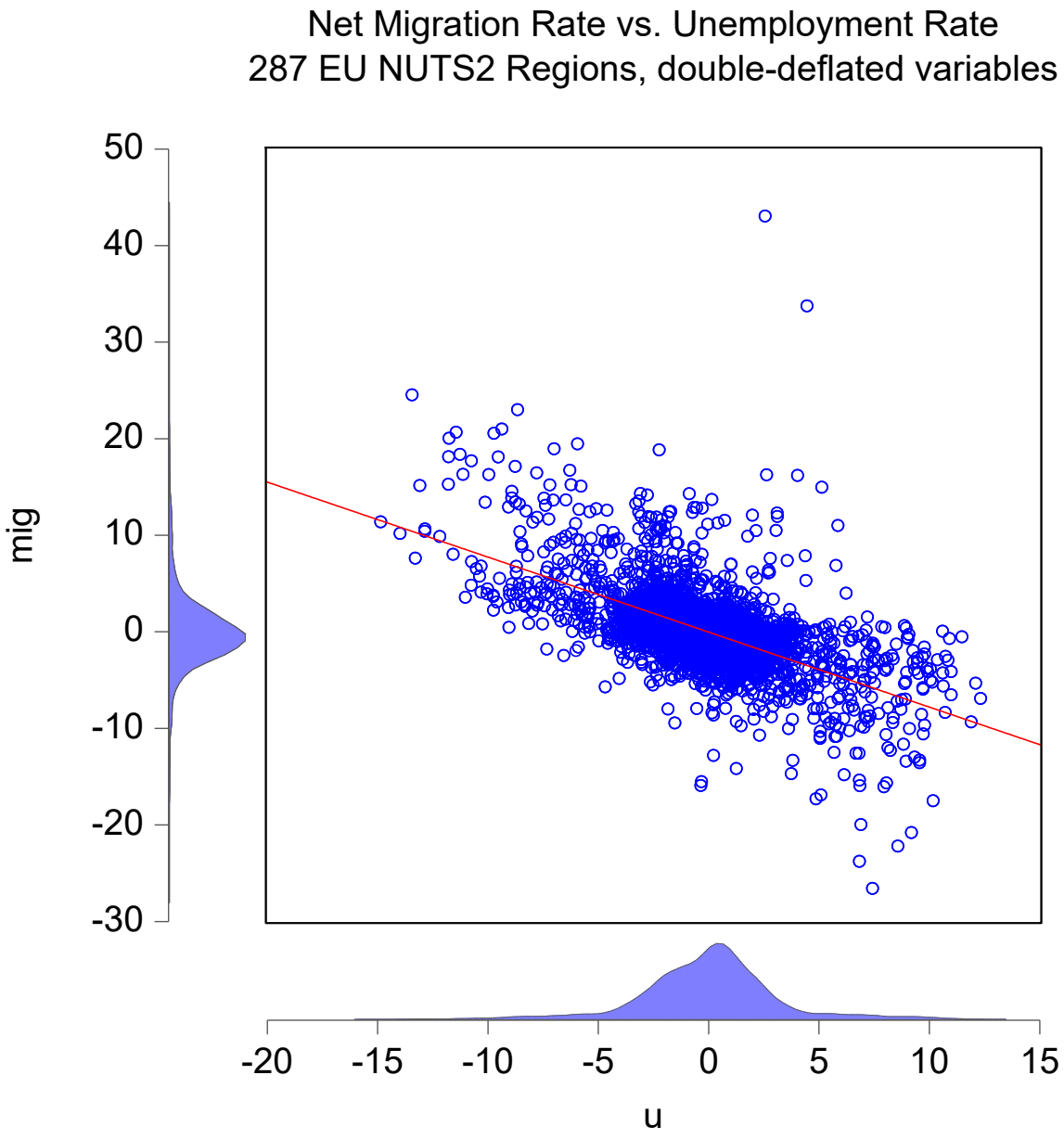
Net migration data for NUTS2 regions, EU

- Mean absolute net migration is 0.47%
- I construct double-demeaned variables like in the paper
- STD of net migration: 0.46% (in paper: US & Can: 0.48% EU: 0.32)
- STD of unemployment: 3.1% (paper: US 1%, Can: 1.03% EU: 2.5%)





Unemployment and Migration



Unemployment and Migration: not just cross-section

- AT11 - Burgenland (AT), MIG
- AT12 - Niederösterreich, MIG
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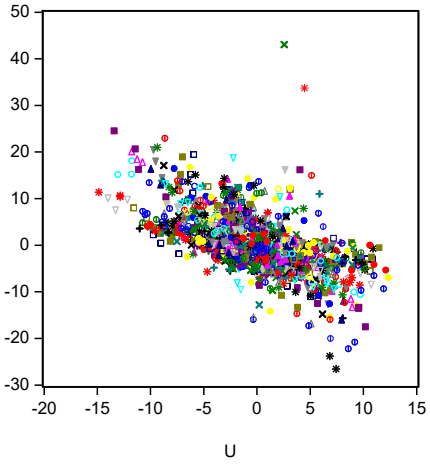
Net migration rates vs Unemployment rates
(both double-demeaned, 287 EU NUTS2 regions)



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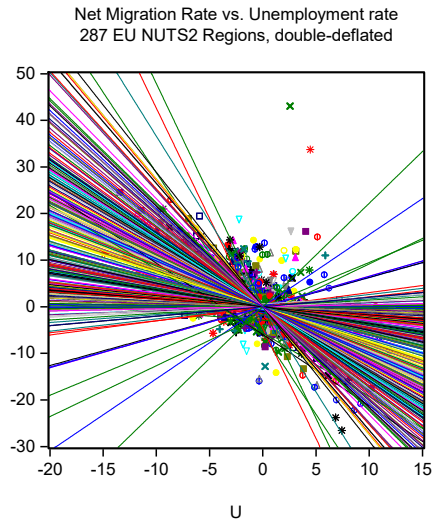

Within-Europe double-demeaned results

$$netm_{i,t} = \beta_0 + \beta_1 \hat{u}_{i,t} + \epsilon_{i,t}$$

Method	Pool	FE	RE	Robust-M	Robust-S
$\hat{\beta}_1$	-0.78^{***}	-0.78^{***}	-0.78^{***}	-0.6^{***}	-0.51^{***}
s.e.	(0.019)	(0.02)	(0.019)	(0.012)	(0.018)
$\bar{R}^2$	0.35	0.29	0.35	0.42	0.16
# obs	3,350	3,350	3,350	3,350	3,350

- Stubborn highly significant negative correlation
- Paper: US -0.272^{***}, Can US -0.223^{***}, EU -0.082^{***}

Why are my results so different?

1. I made mistakes
2. 2005 - 2016 sample has a series of major shocks (GFC, Eurozone debt crisis)
    - With fixed costs to moving, nonlinearity: large shocks may prompt migration
3. My double-deflating doesn't use population weights (ran out of time) but I don't think this matters greatly
4. By construction? Granularity: how much of these results is driven by level of aggregation?
    - Most say nobody migrates to/from the Earth
    - But this also raises question: what drives the comovement?
5. Results weaker without double-demeaning, but still stronger than in paper

Impulse response

$$\hat{u}_{i,t} = \beta_i + \beta_1 \hat{u}_{i,t-1} + \beta_1 \hat{u}_{i,t-2} + \epsilon^u_{i,t}$$

- Estimated responses to a unitary shock:
  - $t = 1:$ 1.08
  - $t = 2:$ 0.81
  - $t = 3:$ 0.48...
- Somewhere between the response of US and Canada in the paper

Other things

- New bilateral data seem very promising
- How is S pinned down in the model?
- How can labor mobility substitute nominal exchange rate fluctuations?
- Related question: is labour mobility optimal given nominal price rigidities and institutional rigidities in the Eurozone?
  - Real exchange rate levels seem aligned with the fundamentals in the Eurozone, but only after controlling for labor wedges.
- I look forward to the updated paper

Thank you!