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 $\Phi$
  - 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
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 heterogeneity in your current regression?

- Use sub-national data?
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).
5.5 Unemployment rate, persons aged 15-74

Unemployment rate, persons aged 15-74 in NUTS 2 regions, 2016 (%)

- < 5
- 5 – < 10
- 10 – < 15
- 15 – < 20
- ≥ 20
- Data not available

Note: Corse (FR83) and Cumbria (UKD1): low reliability.
Eurozone regional unemployment rates (169 regions)
Mean Regional Unemployment Rate (EU NUTS2 regions, double-demeaned)
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

Net Migration Rate vs. Unemployment Rate
287 EU NUTS2 Regions, double-deflated variables
Unemployment and Migration: not just cross-section

Net migration rates vs Unemployment rates
(both double-demeaned, 287 EU NUTS2 regions)
Unemployment and Migration: not just cross-section

Net Migration Rate vs. Unemployment rate
287 EU NUTS2 Regions, double-deflated
Within-Europe double-demeaned results

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

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<th>RE</th>
<th>Robust-M</th>
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<td>( \hat{\beta}_1 )</td>
<td>(-0.78^{***})</td>
<td>(-0.78^{***})</td>
<td>(-0.78^{***})</td>
<td>(-0.6^{***})</td>
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- 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

\[ \hat{u}_{i,t} = \beta_i + \beta_1 \hat{u}_{i,t-1} + \beta_1 \hat{u}_{i,t-2} + \epsilon_{i,t} \]

- 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
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!