DEUTSCHE BUNDESBANK
EUROSYSTEM

Evaluating Recent Proposals For A Common European Unemployment Insurance

Dolls & Stähler & Moyen & Winkler | 18/11/2017 |

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Motivation: Policy calls

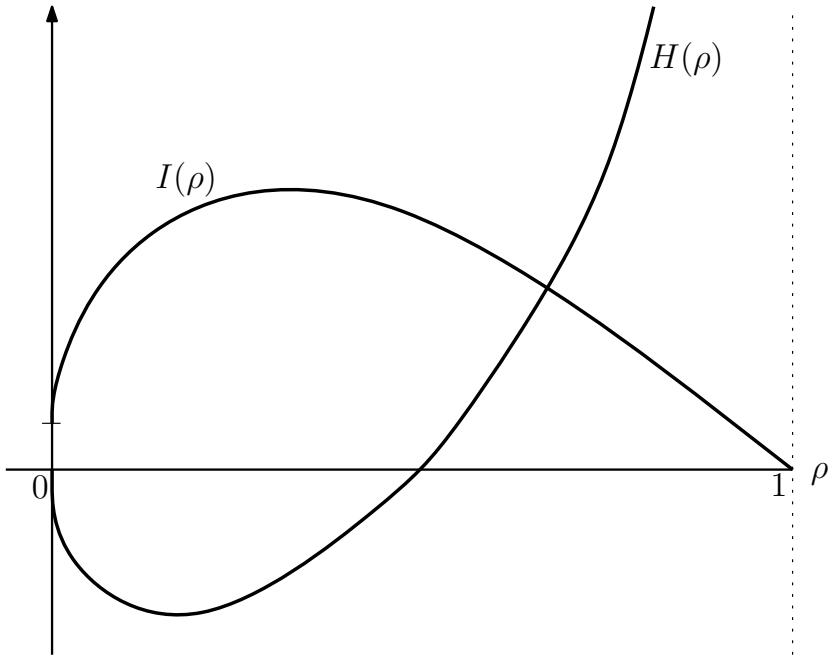
- Four and Five Presidents' Report in favor of establishing a fiscal capacity in Europe (van Rompuy, 2012; Juncker, 2015)

  "[B]*ased on the expert work available to date, I consider that the best form of* [...] *a countercyclical fiscal capacity at the EMU level would be a scheme where the participating countries share part of the costs of short-term unemployment insurance*" (Andor, 2014)

- A common European UI has also been suggested by, among others, the IMF, the German Institute for Economic Research (DIW), the French Advisory Council, the Centre for European Economic Research (ZEW) and the Banca d'Italia: Artus et al (2013), Bernoth/Engler (2013), Blanchard et al (2014), Dolls et al (2014), Brandolini et al (2016), Bénassy-Quéré et al (2016), Enderlein (2017)

Motivation: What do we know about an optimally designed UI?

- Design of optimal UI entails tradeoff between insurance and efficiency:



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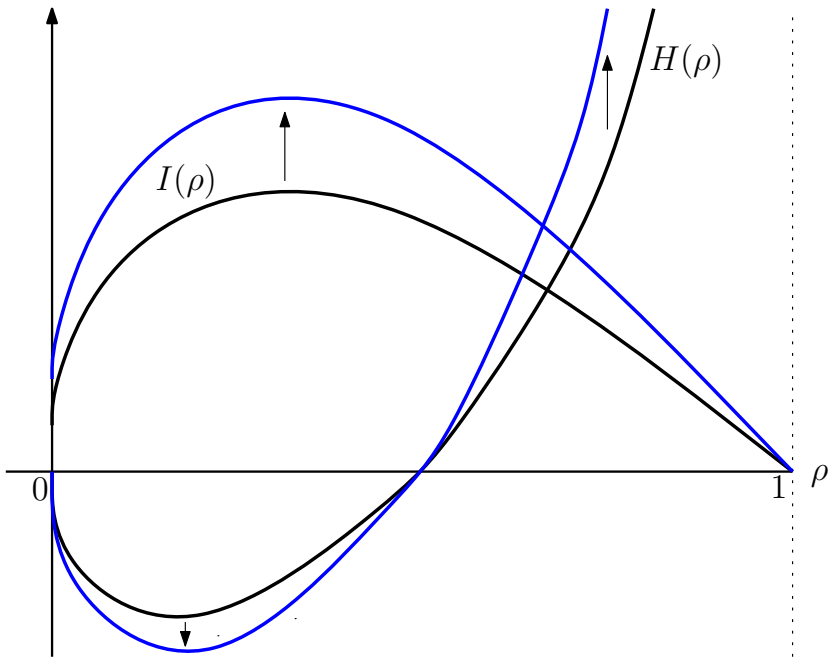
- pro- or countercyclical stance can be optimal (Mitman/Rabinovich, 2015).



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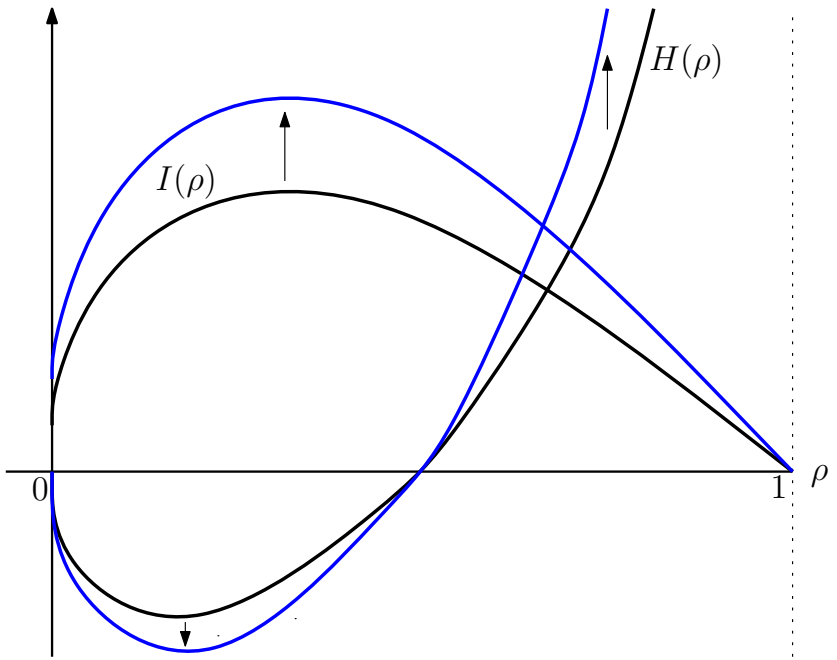

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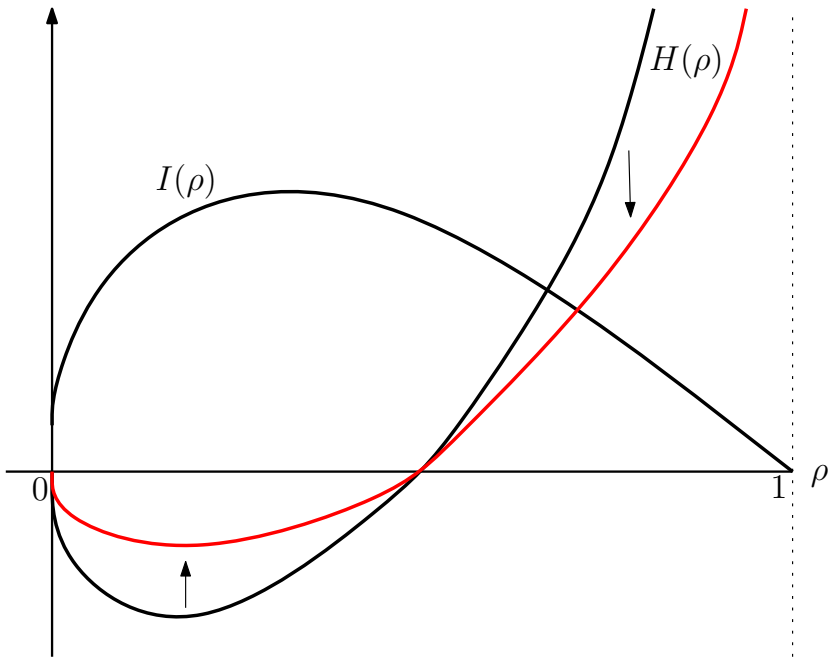
- International transfers (through UI) tilt tradeoff towards more insuarcne (Moyen/Stähler/Winkler, 2016).



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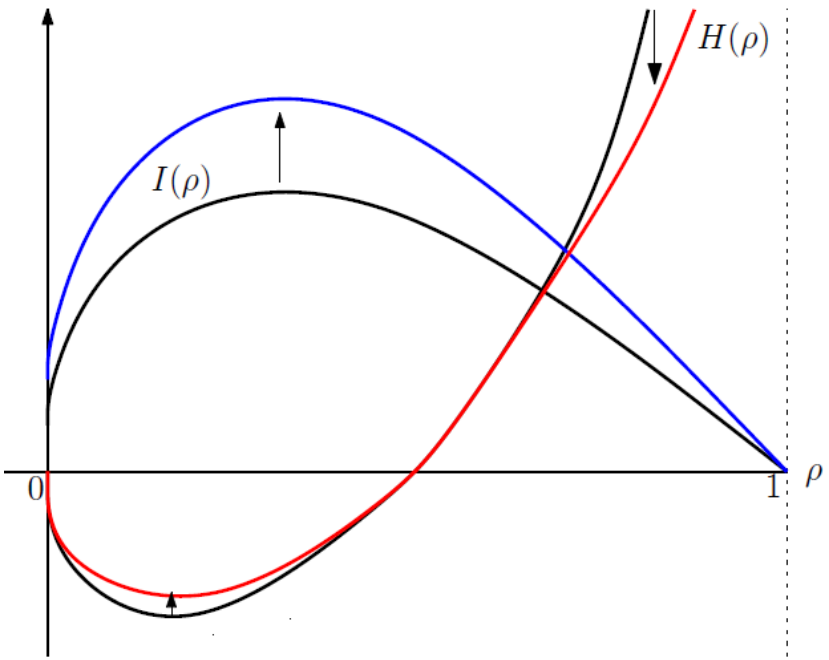
- In the limit, optimal UI is countercyclical.



Motivation: What do we know regarding the specific question?

In a dynamic macroeconomic model, Moyen/Stähler/Winkler (2016), *Optimal Unemployment Insurance and International Risk Sharing*, show theoretically that

- international risk sharing can be improved through a common – optimally designed – UI,
- transfers are sizable, stabilize consumption volatility in Periphery Europe
- and may not be replicated by deficit-financed national policies ("*let the automatic stabilizers work*").

- BUT: demanding requirements as replacement rates ***and*** contributions to common UI must be cycle- ***and*** country-specific!

Motivation: This paper...

...analyses the effects of establishing a commonly financed UI system that covers (part of) the benefits to short-term unemployment (eg 50%):

- Choosing short-term unemployment as a proxy for cyclical situation not innocuous as it entails structural component itself.

$\Rightarrow$ Common UI designed like this entails structural transfers between regions.

- In general, donor regions lose while recipient regions win.
  - Both regions may lose if common replacement rate “too high” in recipient region...

- Business cycle dynamics and costs of business cycles similar in regimes with national or supranational UI (designed as above).

Contents

Related literature

- **fiscal union:**
  Mundell (1961), von Hagen (1992), Sorensen & Yosha (1998), Bordo et al. (2011), Farhi & Werning (2013, 2014), ...

- **optimal UI:**
  Bailey (1978), Chetty (2006), Andersen & Svarer (2011), Moyen & Stähler (2014), Landais et al. (2015), Jung & Kuester (2015), Mitman & Rabinovich (2015), ...

- **E(M)U policy proposals:**
  Melitz & Vori (1999), Dullien (2007), van Rompuy (2012), Artus et al. (2013), IMF (2013), Bargain et al. (2013), Andor (2014), Beblavy & Maselli (2014), Eichhorst & Wozny (2014), Dolls et al. (2016), ...

The model

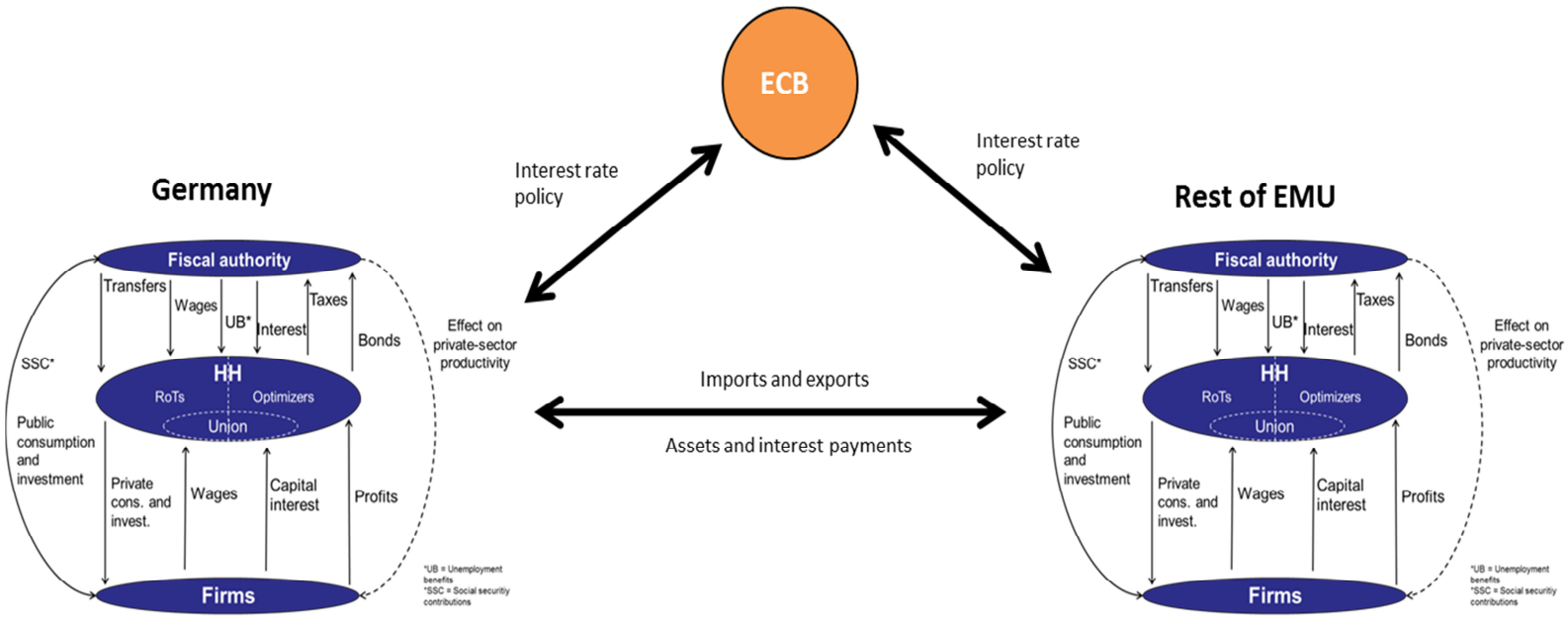
FiMod (Stähler/Thomas, 2012): medium to large-scale DSGE model with the following features

- Two-country monetary union: Core and Periphery
- Labor market frictions (modern theory of equilibrium unemployment)
  - → Baseline model extended by endogenous participation choice, social assistance payments as well as short and long-term unemployment (Gadatsch/Stähler/Weigert, 2016)
- Comprehensive fiscal block
- Possibility to include common supranational UI scheme:

$$\omega N_t^P (\tau_t^{w,EU} + \tau_t^{sc,EU}) w_t^p + (1-\omega) N_t^{P,*} (\tau_t^{w,EU} + \tau_t^{sc,EU}) w_t^{p,*} = \left[\omega \gamma_t U_t \kappa_t^{Bs,EU} + (1-\omega) \gamma_t^* U_t^* \kappa_t^{Bs,EU,*}\right],$$

with $\kappa^{Bs,EU} = on \cdot rrs^{EU} (1 - \tau_t^{w,EU} - \tau_t^{sc,EU}) w_t^p$; analogous for Periphery.

Graphical overview



Households

- Two types of households: optimizers and liquidity constrained "rule-of-thumbers" (RoTs)
- Consume home and foreign privately-produced goods; utility from government services
- Optimizers provide labor and save either in (i) physical capital, (ii) home government bonds or (iii) an internationally traded bond; they own firms (intra- and intertemporal optimization)
- RoTs provide labor but spend all their (labor) income on consumption each period (only intratemporal optimization)
- Endogenous labor market participation decision

Production

- Retailers operate in competitive manner: buy intermediate goods varieties j at $P_{At}(j)$, bundle these and sell them to home and foreign market at P_{At}
- Intermediate goods producers produce goods with “labor” and capital (cost minimization); they set prices (Calvo-pricing); public capital stock is productivity-enhancing
- “Labor packers” find unemployed workers, hire them, pool their labor services and sell these to intermediate sector
  - $\rightarrow$ Labor market is characterized by search frictions and staggered wage setting (à la Calvo)!

Labor market

- Labor market characterized by search frictions (Pissarides, 2000)
- Private firms:
  - → Decide on job creation optimally
  - → Nash Bargain over wages in staggered fashion
- Differentiate between short and long-term unemployment

Monetary and fiscal authority

- Monetary policy sets interest rates according to a Taylor rule for monetary union
- National fiscal authorities
  - → Finance themselves with taxes (on consumption, wage income, social security contributions, returns on capital and bonds, and lump-sum) and public debt
  - → Spend in privately-produced consumption and investment goods (the latter adding to the stock of public capital), unemployment subsidies (short and long-run), social assistance and other (lump-sum) subsidies
- Potentially existence of supranational UI scheme (not present in initial steady state)

Market clearing and equilibrium

- Foreign country is modelled in perfect analogy
- Standard current account identity: net foreign asset position driven by net exports
- Terms of trade can be calculated endogenously
- All markets clear

Calibration strategy

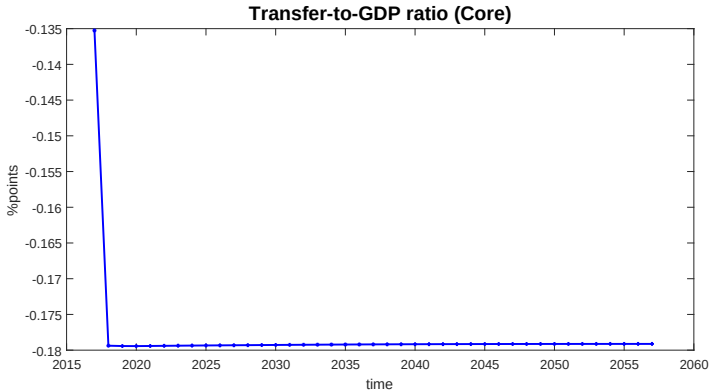
- Set (mainly fiscal and some labor market) targets for variables or ratios in steady state
  - → Mainly taken average values from Core/Periphery national accounts data (see Moyen/Stähler/Winkler, 2016)
- Take mayor part of parameters from the literature and derive rest endogenously to meet targets
  - → Labor market parameters mainly from de Walque et al (2009), Boscá et al (2009) and Gomes (2009)
  - → Rest of variables from Boscá et al (2009), Christoffel et al (2009) and Forni et al (2009)
  - → "Endogenously", we only have to derive vacancy posting costs and matching efficiency

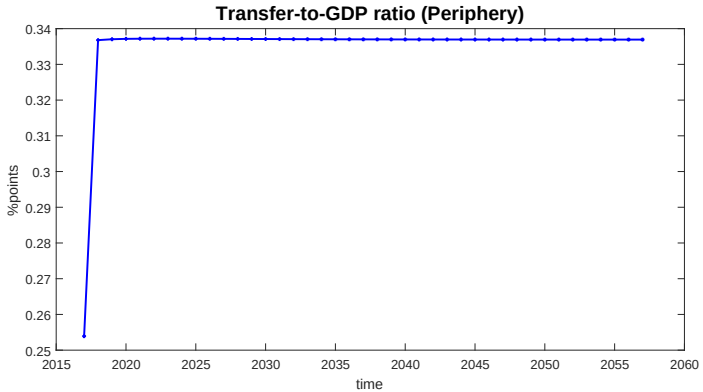
Targeted moments

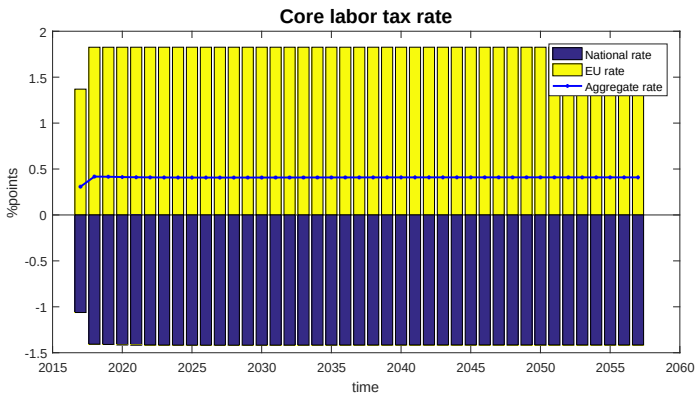
Moment	Core	Periphery	Source
Labor force share; ω and $(1-\omega)$	60.1%	39.9%	OECD
Real GDP share	65.3%	34.7%	OECD
Labor market participation rate; $(1-\bar{lei}s)$	80.0%	80.0%	OECD
Mean unemployment rate	8.38%	12.23%	OECD
Government share in GDP	21.3%	22.5%	Gadatsch et al (2016)
Labor tax rate	30.4%	27.7%	Gadatsch et al (2016)
Capital tax rate	21.4%	31.6%	Gadatsch et al (2016)
Consumption tax rate	18.3%	19.6%	Gadatsch et al (2016)
Social security contribution rate	16.7%	24.6%	Gadatsch et al (2016)
Net replacement rate, short-term unemployment	60.0%	59.0%	Gadatsch et al (2016)
Net replacement rate, long-term unemployment	43.0%	43.0%	Gadatsch et al (2016)
SS job finding rate	30%		Balta/Delgado (2009)
SS vacancy filling rate	70%		Christoffel et al (2009)
Consumption home bias	85%		Crobo/Osbat (2013)

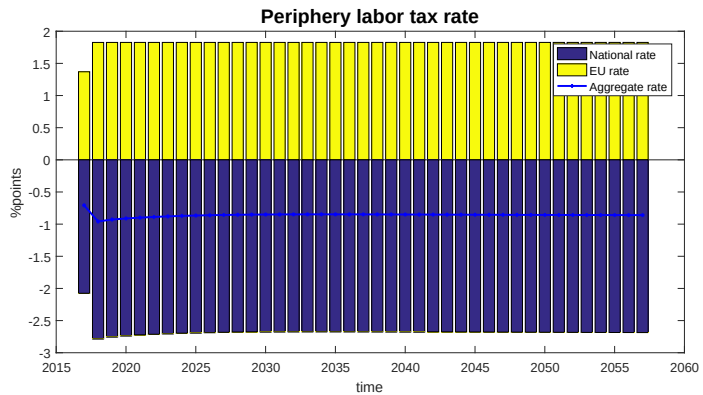
OECD data is taken in the range 1984Q1–2014Q4. GDP in this table is defined as the sum of final private and government expenditure.

Results: Transfer and tax developments

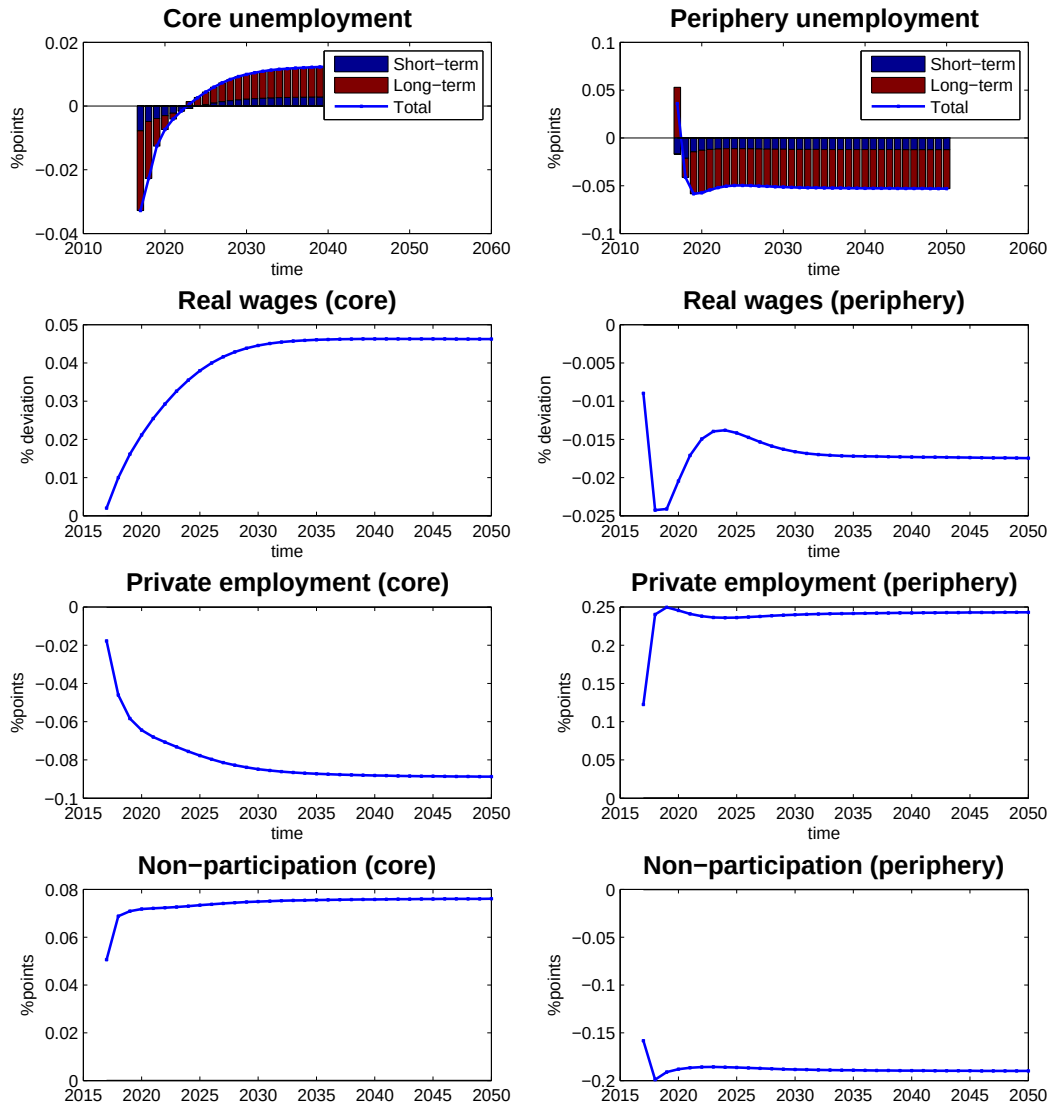




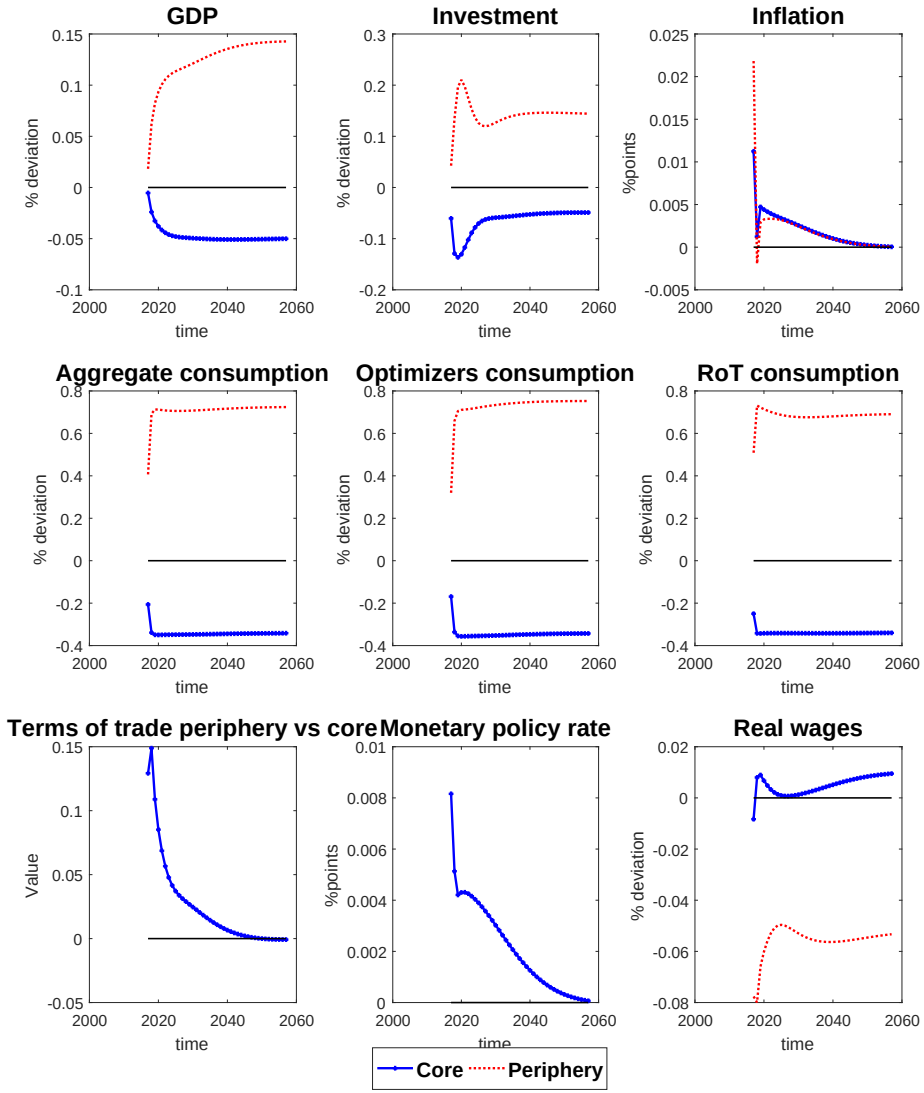




Results: Labor market developments



Results: Macro developments



Results: Long-run effects of a common EMU-wide UI system

Variable	Core	Periphery	Whole union
GDP	-0.14	0.46	0.10
Consumption	-0.42	1.10	0.19
Wages	0.05	-0.02	0.02
Net labor income	-0.73	1.91	0.32
Unemployment	0.01	-0.05	-0.01
Leisure	0.08	-0.19	-0.03
Effective labor tax rate	0.54	-1.39	-0.23

Long-run effects of a common EMU-wide UI system financing contributions to the short-term unemployed relative to the initial steady state (in per cent/percentage point deviations).

Results: Business cycle effects

Variable	National UI only Core	National UI only Periphery	Common UI Core	Common UI Periphery
Standard deviations				
GDP	0.3159	0.3311	0.3184	0.3370
Consumption	0.1227	0.0862	0.1253	0.0927
Wages	0.1798	0.1687	0.1809	0.1675
Unemployment	0.2315	0.2543	0.2319	0.2540
Leisure	0.0680	0.0667	0.0681	0.0647
Autocorrelations				
GDP	0.9926	0.9942	0.9926	0.9942
Consumption	0.9926	0.9952	0.9929	0.9956
Wages	0.9926	0.9938	0.9926	0.9937
Unemployment	0.6768	0.8061	0.6832	0.8135
Cross-correlations				
GDP	0.9183		0.9195	
Consumption	0.6815		0.6963	
Unemployment	0.6768		0.6851	

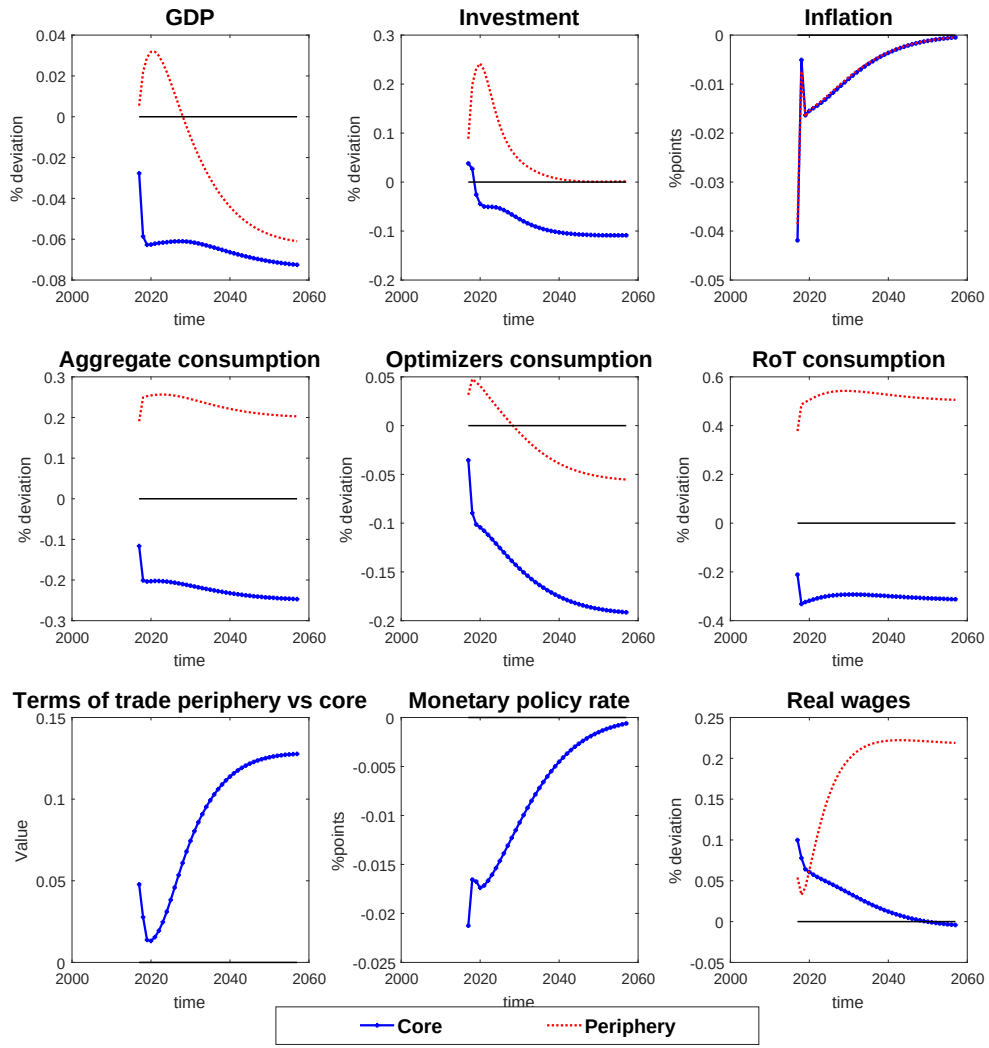
Business cycle statistics of simulating the model with and without a common EMU-wide UI system for selected variables. Cross-correlations in absolute values.

Results: Welfare

	Core	Periphery	Whole union
Long-run welfare gains (Δ_{LR})	-0.3725	0.9874	0.1706
Costs of business cycles (Δ_{BC})	-0.0289	-0.0265	-0.0279
Total welfare gains	-0.4014	0.9609	0.1435

All welfare changes are expressed in consumption equivalent. Long-run welfare gains (Δ_{LR}) represent a steady-state comparison, without aggregate uncertainty and excluding transition costs. Costs of business cycles calculate the gain from one regime to the other (ie $\Delta_{BC} > 0$ implies a reduction in the welfare costs of business cycles). Total welfare gains are given by the sum of the steady-state welfare changes and the differences in the costs of business cycles.

Results: Macro developments in Periphery when $rrs^{EU} > rrs^{*}$



Conclusions

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- Choosing short-term unemployment as a proxy for cyclical situation not innocuous as it entails structural component itself.

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- Business cycle dynamics and costs of business cycles similar in regimes with national or supranational UI.

To be done...

The paper is still work-in-progress; further planned analyses include:

- Make the steady-state tax rates to the EMU-wide system country-specific such that there will be no steady-state transfers. Argument: in the EMU-wide system, every country should take care of its own structural unemployment.
- Following the findings of Moyen et al (2016) or Moyen/Stähler (2014), make rrs^{EU} time-varying and country-specific.
- As a rule, one could have rrs^{EU} react to home output deviations relative to foreign ones (ie the relative cyclical position). Argument: cyclical output is calculated for the Stability and Growth Pact anyway, so it is available; relative cyclical position due to the findings of mentioned papers – whoever is worse off, may receive a transfer
- To get the "optimal" welfare-improving rule, run a grid search to determine how strongly rrs^{EU} should react to the relative cyclical position.