Benefiting from a European 'fiscal union'? Redistribution vs. stabilization

Dirk Neumann

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Motivation

- Current debt crisis EU $\Rightarrow$ debate about deeper fiscal integration
- Herman van Rompuy (2012):
  - *"Strengthening discipline alone is [...] not sufficient. In the longer term, there is a need to explore the option to go beyond the current steps to strengthen economic governance by developing gradually a fiscal capacity for the EMU. Such a fiscal capacity could take several forms and various options would need to be explored."*
- Main point existing literature: **monetary union** cannot survive unless complemented by a **fiscal union**

What is a 'fiscal union'?

Potential elements of a 'fiscal union' in the current debate:

1. Rules for fiscal policy (Fiscal Pact, Stability and Growth Pact...)
2. Crisis mechanism: EFSF/ESM, ECB (OMT)
3. Joint liability for government debt (Debt Redemption Fund...)
4. European fiscal equalization mechanism
5. Extended EU budget and European taxes

What is a 'fiscal union'?

Expected **gains**: improved macroeconomic stabilization against asymmetric shocks

Widespread **concerns** about 'fiscal union':

1. Redistribution from high to low income countries/households
2. Adverse effects on incentives to work (higher transfers or higher tax burdens)
3. Many other concerns like e.g. unequal compliance with tax law or administrative issues

Contribution

Simulation experiment: Euro area (EA) integrated tax-transfer system that replaces 10% of national systems

- Closely related to *Bargain et al. (2013), Economic Policy*
  - 2001 data for 11 eurozone members + simulated shock
  - Separate analysis of redistributive effects and income stabilization
- This paper:
  - 2007 data for EA17 + simulated shock
  - What is the integrated (individual) welfare effect of redistributive and stabilization effects?
  - Expected utility approach + equivalent variation (EV)
  - Pareto improving reform possible?

Framework

Concept of a 'fiscal union'

How to design a 'fiscal union'?

1. Overall revenue: neutrality
2. Design: "average" of national tax-transfer systems
   Level of integration: 10% ($\approx$ 3% of EA net taxes, 1.5% of EA GDP)
3. Assignment of revenues: central budget + immediate redistribution across countries ($\rightarrow$ changed net tax burden of households only)

Expected utility and EV

- Individuals with CRRA utility function:

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$\rightarrow$ For national systems k (baseline) and integrated system EA

$\Rightarrow$ Equivalent variation:

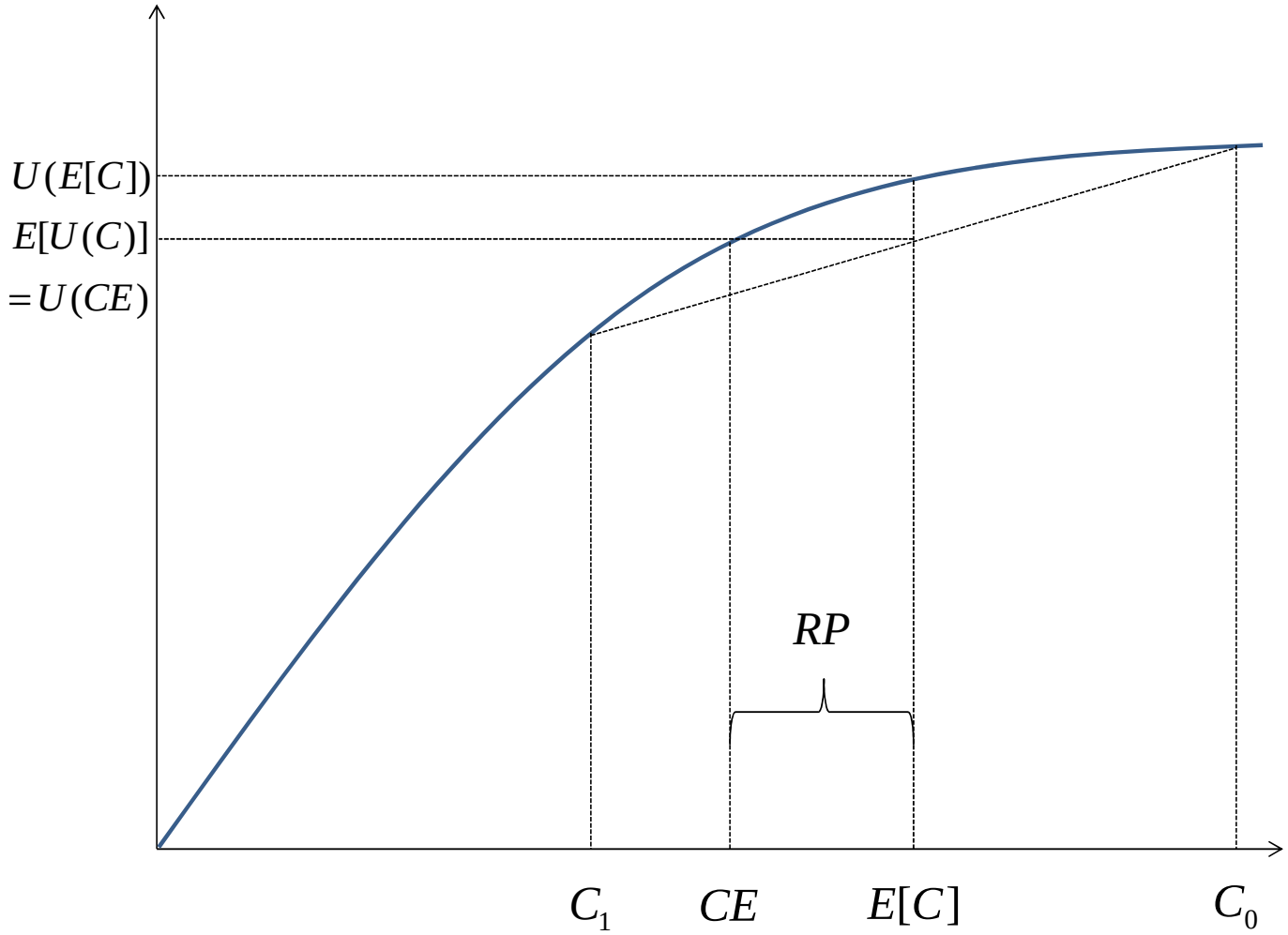
$$U(CE_{ik} + EV_i) - U(CE_{iEA}) = 0$$

EV components

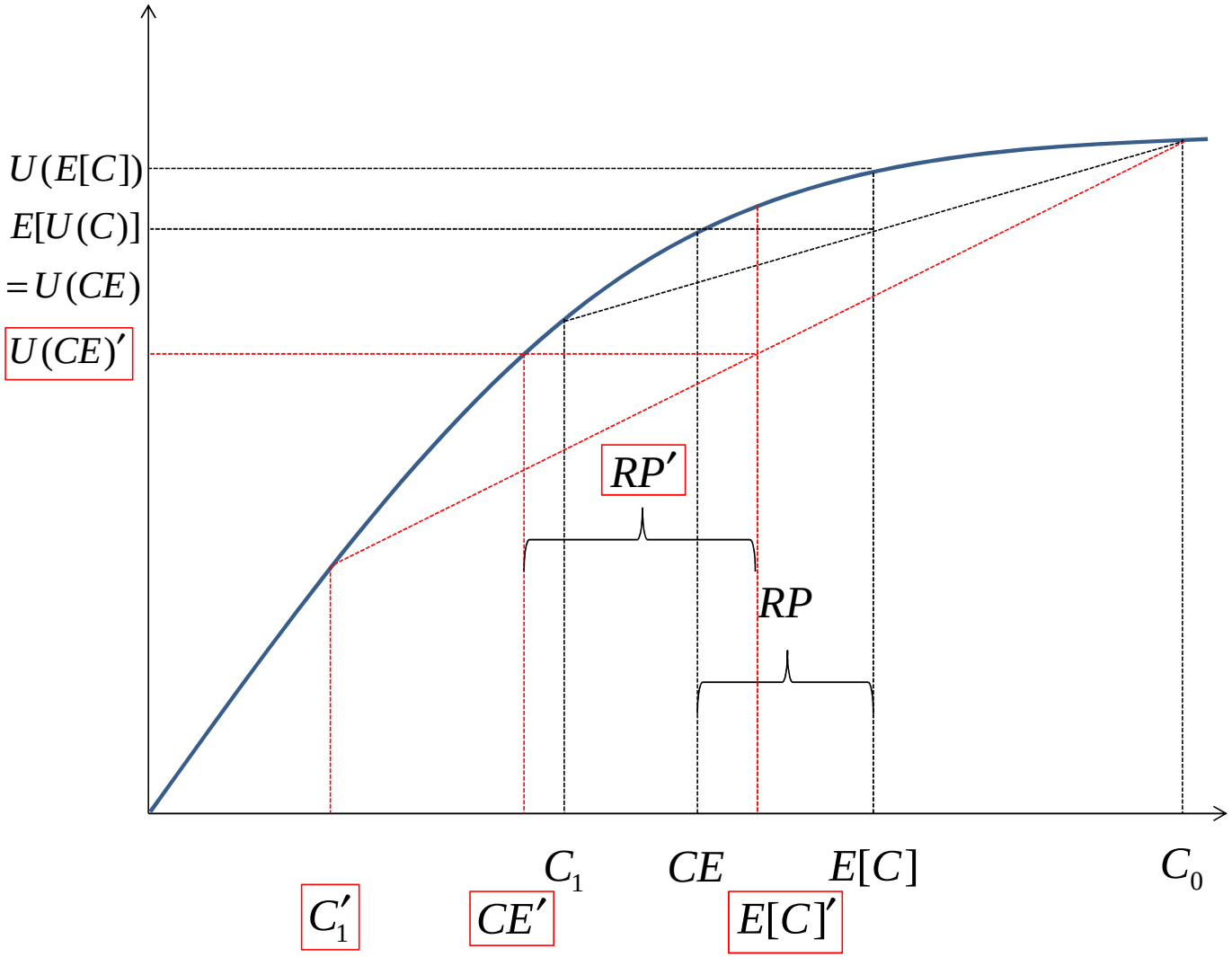
EV has a "redistribution" and an "insurance" component:

$$\begin{aligned} \underbrace{CE_{EA} - CE_k}_{=EV_T} &= E[C_{EA}] - RP_{EA} - (E[C_k] - RP_k) \\ &= \underbrace{E[C_{EA}] - E[C_k]}_{\dashrightarrow EV_R} \quad \underbrace{+RP_k - RP_{EA}}_{\dashrightarrow EV_I} \end{aligned}$$

The model



Key importance: credit constraint at country level



Empirical strategy

EU-SILC & EUROMOD

- European tax-benefit calculator EUROMOD: simulates household disposable income, taxes, cash benefits and SIC
- 2007 (before crisis) data and systems for EA17
- Additionally: EA12, EA "North", EA "South"
- Working age population $18 - 59$
- Unit: individual $\rightarrow$ household equivalized disposable income
- Focus:
  a) median voter ($\rightarrow$ political feasibility?)
  b) income deciles within countries

Implementation steps

1. EUROMOD: extract household net taxes
   $T_{ik} = f_k(X_i, \mathbf{z}_i)$ with gross income X, vector of non-income factors $\mathbf{z}$
2. Predict national systems using OLS
   $T_{ik} = \tilde{f}_k(X_i, \mathbf{z}_i) + \epsilon_i$ with highly flexible $\tilde{f}$
3. Estimation of the average system using *same* specification
   $\hat{T}_{ik} = \omega_i \tilde{f}_{EU}(X_i, \mathbf{z}_i) + \epsilon_i$ with population weight ω
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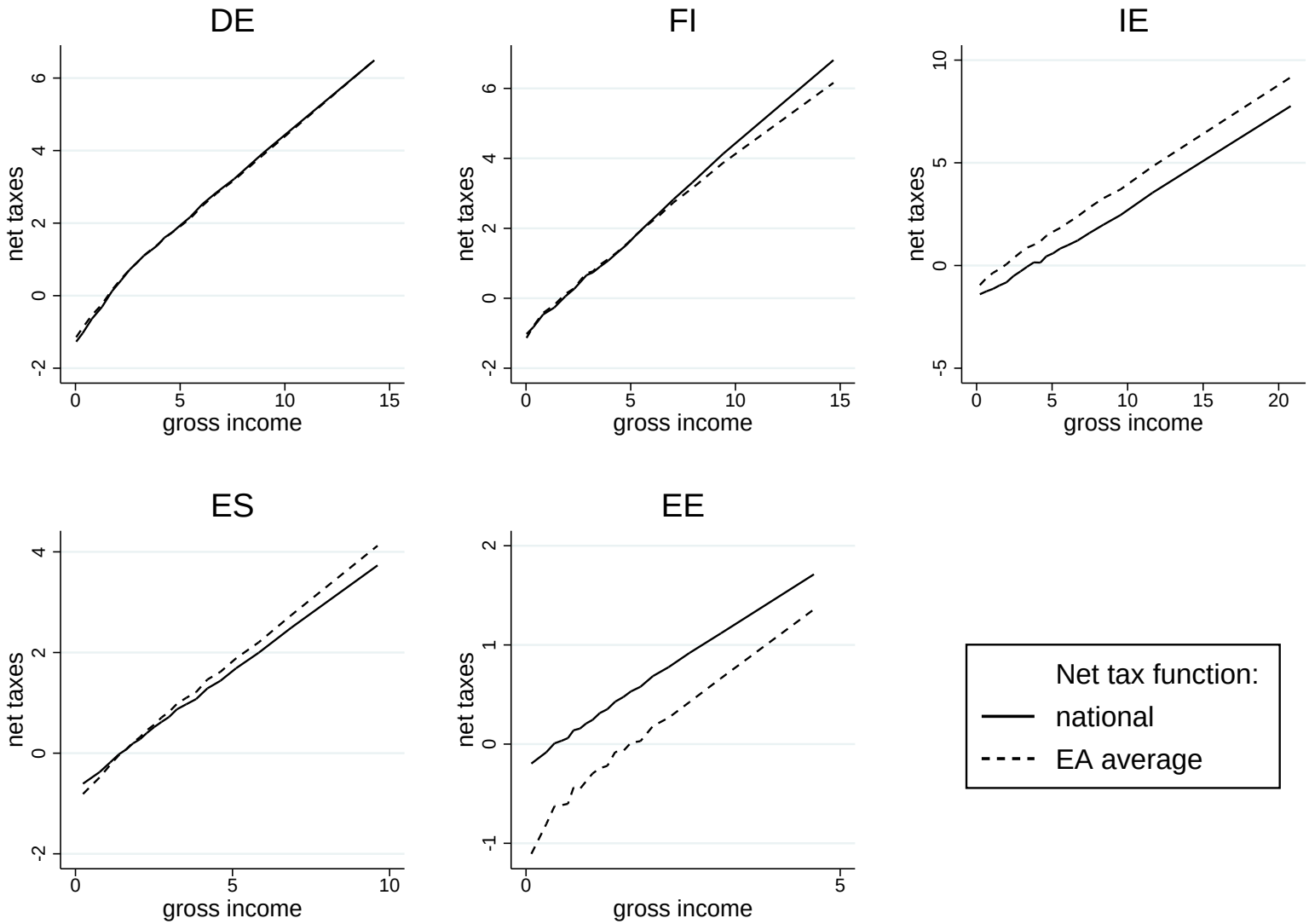
$\rho = 3$

"EA average" vs. national systems

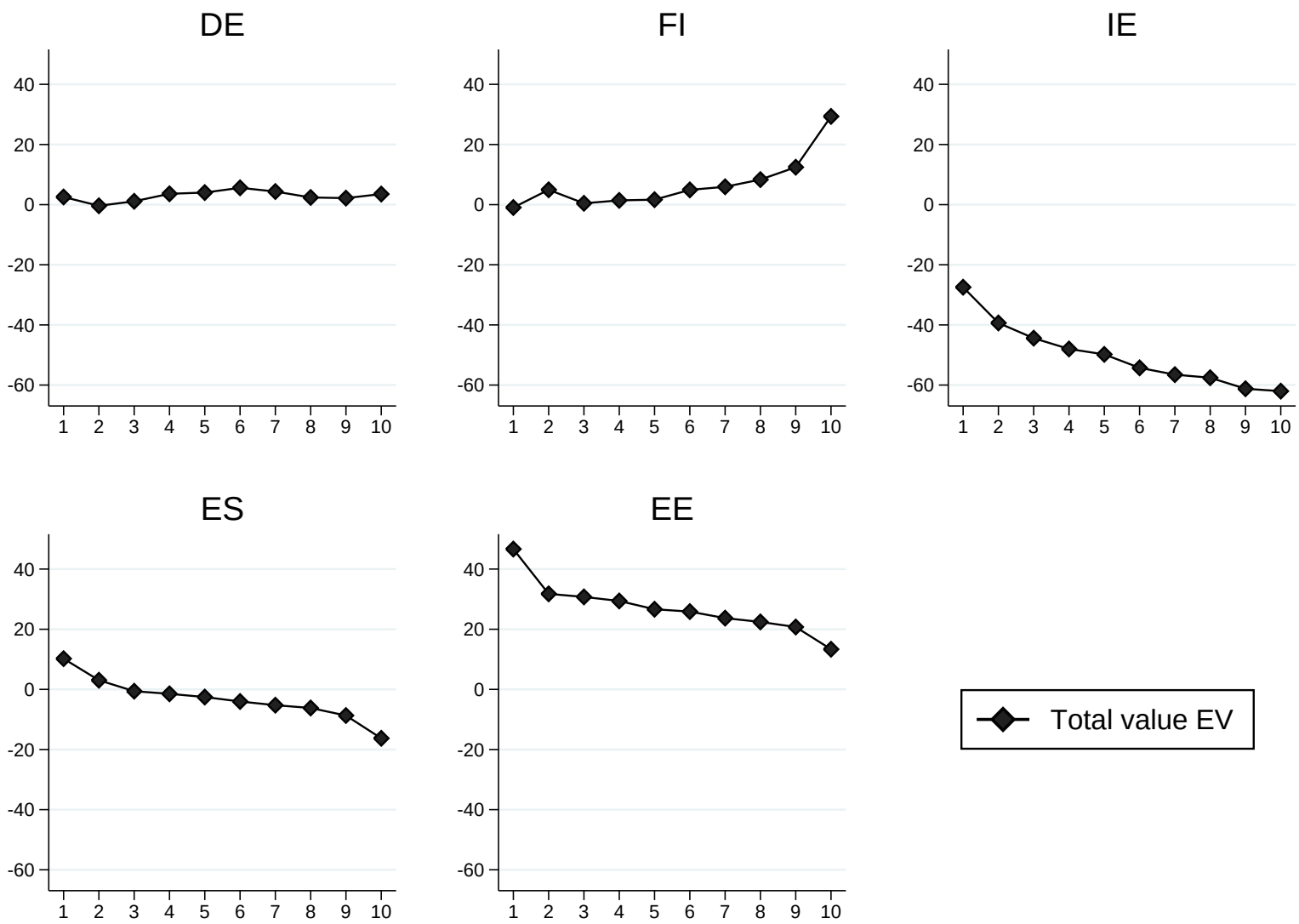


Results

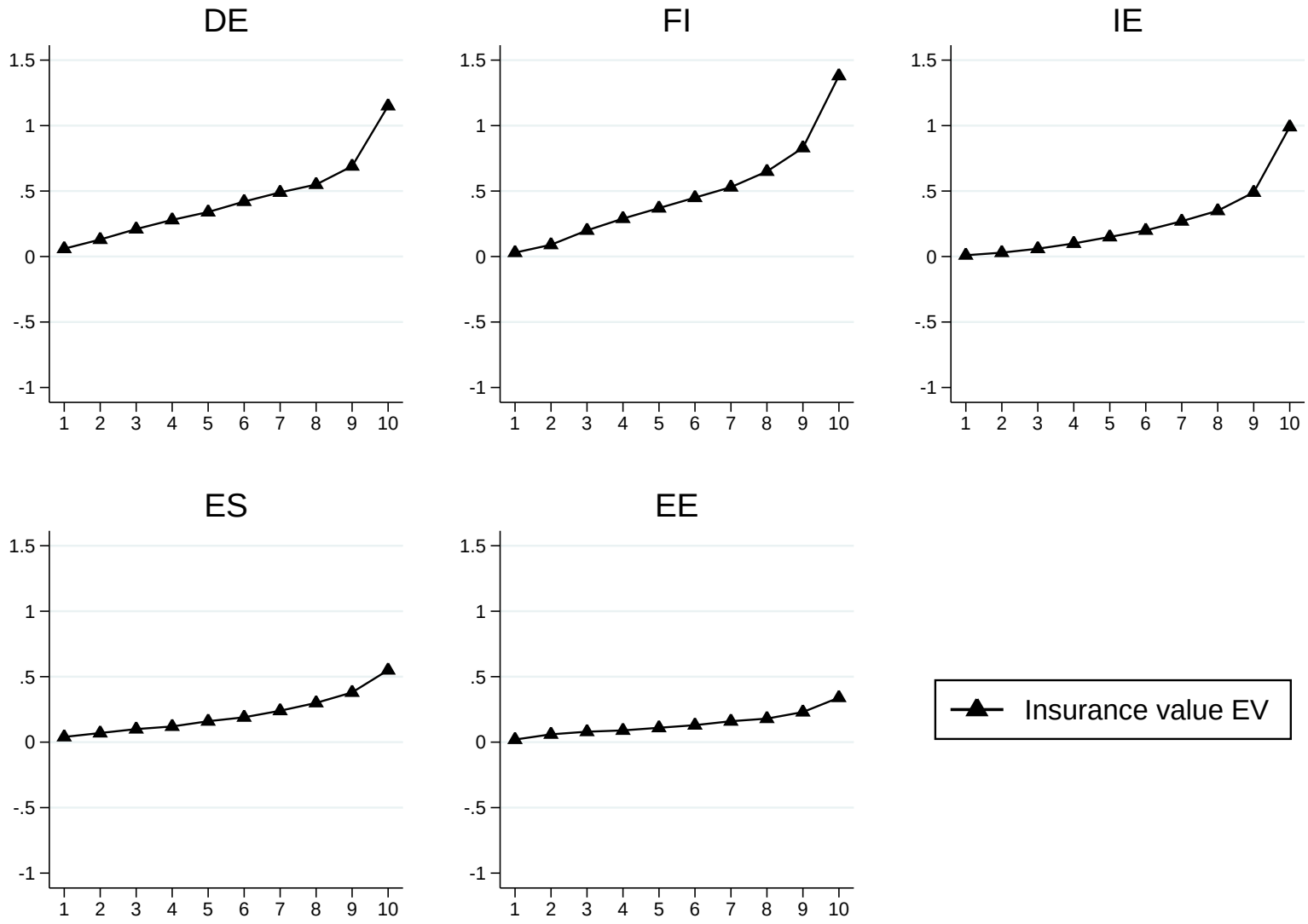
EV for EA17

	EV_T	EV_R	EV_I
AT	-5.7	-6.2	0.3
BE	8.2	7.8	0.4
CY	-26.3	-26.4	0.1
DE	6.2	5.8	0.3
EE	23.0	22.9	0.1
EL	-3.2	-3.3	0.1
ES	-3.5	-3.7	0.2
FI	4.1	3.6	0.4
FR	9.1	8.7	0.4
IE	-50.4	-50.6	0.2
IT	7.1	6.8	0.2
LU	-52.6	-53.1	0.3
MT	-4.4	-4.5	0.1
NL	-6.8	-7.2	0.4
PT	2.9	2.9	0.1
SI	15.1	15.0	0.2
SK	23.6	23.5	0.1

"Total" EV across deciles



“Insurance” EV across deciles



EV for different 'unions'

$\rho = 3$, $\Delta X = -5\%$								
	EA17		EA12		EA-N		EA-S	
	EV_T	EV_I	EV_T	EV_I	EV_T	EV_I	EV_T	EV_I
AT	-5.7	0.3	-6.0	0.3	0.7	0.4	.	.
BE	8.2	0.4	8.9	0.4	14.4	0.4	.	.
CY	-26.3	0.1	.	.	.	.	.	.
DE	6.2	0.3	6.9	0.3	4.8	0.4	.	.
EE	23.0	0.1	-1.7	0.1	.	.	.	.
EL	-3.2	0.1	-2.6	0.2	.	.	-1.1	0.1
ES	-3.5	0.2	4.6	0.4	.	.	-2.1	0.2
FI	4.1	0.4	.	.	5.4	0.4	.	.
FR	9.1	0.4	9.5	0.4	.	.	5.3	0.4
IE	-50.4	0.2	-49.7	0.2	.	.	.	.
IT	7.1	0.2	7.7	0.2	.	.	5.8	0.2
LU	-52.6	0.3	-53.2	0.3	.	.	.	.
MT	-4.4	0.1	.	.	.	.	.	.
NL	-6.8	0.4	-7.3	0.4	-3.7	0.4	.	.
PT	2.9	0.1	4.3	0.1	.	.	1.2	0.1
SI	15.1	0.2	.	.	.	.	.	.
SK	23.6	0.1	.	.	.	.	.	.

Pareto improving reform?

$\rho = 5$, $\Delta X = -10\%$								
	EA17		EA12		EA-N		EA-S	
	EV_T	EV_I	EV_T	EV_I	EV_T	EV_I	EV_T	EV_I
AT	-0.2	2.2	-0.5	2.2	6.7	2.4	.	.
BE	13.4	2.8	14.2	2.8	20.2	3.0	.	.
CY	-23.4	1.0	.	.	.	.	.	.
DE	11.4	2.3	12.0	2.3	9.8	2.4	.	.
EE	24.8	0.9	.	.	.	.	.	.
EL	-0.9	0.9	0.3	0.9	.	.	0.9	0.8
ES	-0.5	1.2	0.4	1.2	.	.	0.6	1.2
FI	10.0	2.7	10.5	2.7	11.6	2.9	.	.
FR	14.4	2.6	14.9	2.6	.	.	10.6	2.5
IE	-47.0	1.2	-46.2	1.2	.	.	.	.
IT	11.1	1.5	11.5	1.5	.	.	9.5	1.4
LU	-45.8	2.2	-46.3	2.2	.	.	.	.
MT	-2.7	0.6	.	.	.	.	.	.
NL	-1.2	2.5	-1.5	2.5	1.7	2.6	.	.
PT	5.0	0.7	6.5	0.7	.	.	3.3	0.6
SI	17.8	1.1	.	.	.	.	.	.
SK	24.9	0.6	.	.	.	.	.	.

Conclusion

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Findings

- 9 of 17 countries gain (mostly Eastern, partly Southern Europe)
- Moving towards smaller + more similar fiscal unions decreases redistributive effects
- Pareto improving? Rather severe crisis scenarios, high risk aversion

Outlook/Discussion

- Use income volatility over time 2008-13
- Other forms of fiscal integration, e.g. EA unemployment insurance
- Introduce heterogeneity across countries/households
- Behavioural effects? Labour supply (*Bargain et al., 2013*), migration, tax avoidance, national policy response, administration costs...

Thank you for your attention!

dirk.neumann@uclouvain.be