DG ECFIN Fellowship initiative 2016-17

Integrated Financial Markets, Banking Union and that stuff

Financial Fragmentation and Fiscal Policy: Coordination or centralization?

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Outline

- Motivation and research question
- Methodology
- First findings
- Next steps

Motivation and research question (I)

- Experience of the EMU
  - First decade of the euro financial integration then financial fragmentation
  - National fiscal policy is the tool to absorb asymmetric shocks
  - Some MS pro-cyclical fiscal policy during great recession/financial fragmentation
  - Debate (academic more than political) about common fiscal risk sharing

- (distinct) debates/strands of economic literature
  - EMU capacity to deal with shocks (governance framework)
  - Interaction between the financial and real economy – financial and the business cycles
  - Understanding financial integration in the EMU

Motivation and research question (II)

- What is the impact of the financial cycle on the stabilization capacity of national fiscal policy?
- What implication for the EMU governance framework?
  - Enough to coordinate fiscal policy?
  - Go beyond coordination?
  - Need for common fiscal stabilization mechanism, under certain circumstances

Methodology (I)

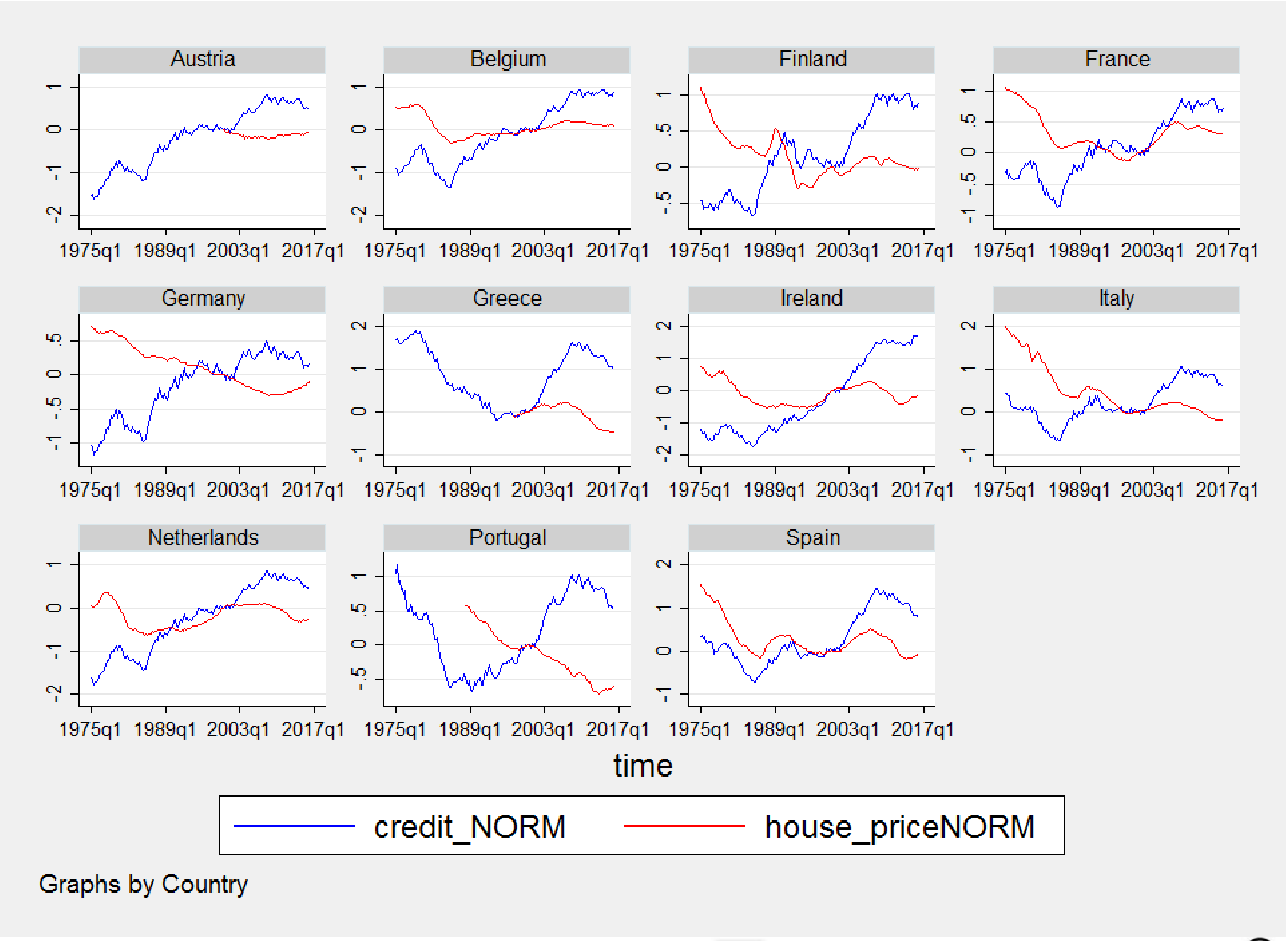
Two-step analysis

1. Identify financial cycle - estimate
   - Cross-country synchronization
   - Interaction with business cycle
   - Link with financial integration
2. Fiscal policy in EA MS
   - Cyclicality (relative to the business cycle) of fiscal policy in the euro area
   - Are fiscal policy reaction functions affected by the financial cycle?

Financial cycle (I)

1. Estimate financial cycle:
    - Based on literature – BIS & IMF
    - Variables and data
        - 11 EA countries (no new MS, no LUX, MT & CY)
        - Credit (volumes and % of GDP) and house prices
        - Period: 1975-2016, quarterly basis
        - No equity – too volatile in the short term, peaks and trough not associated with major crisis (Drehmann et al. , 2012)
        - No bank balance sheet – (Stremmel, 2015)

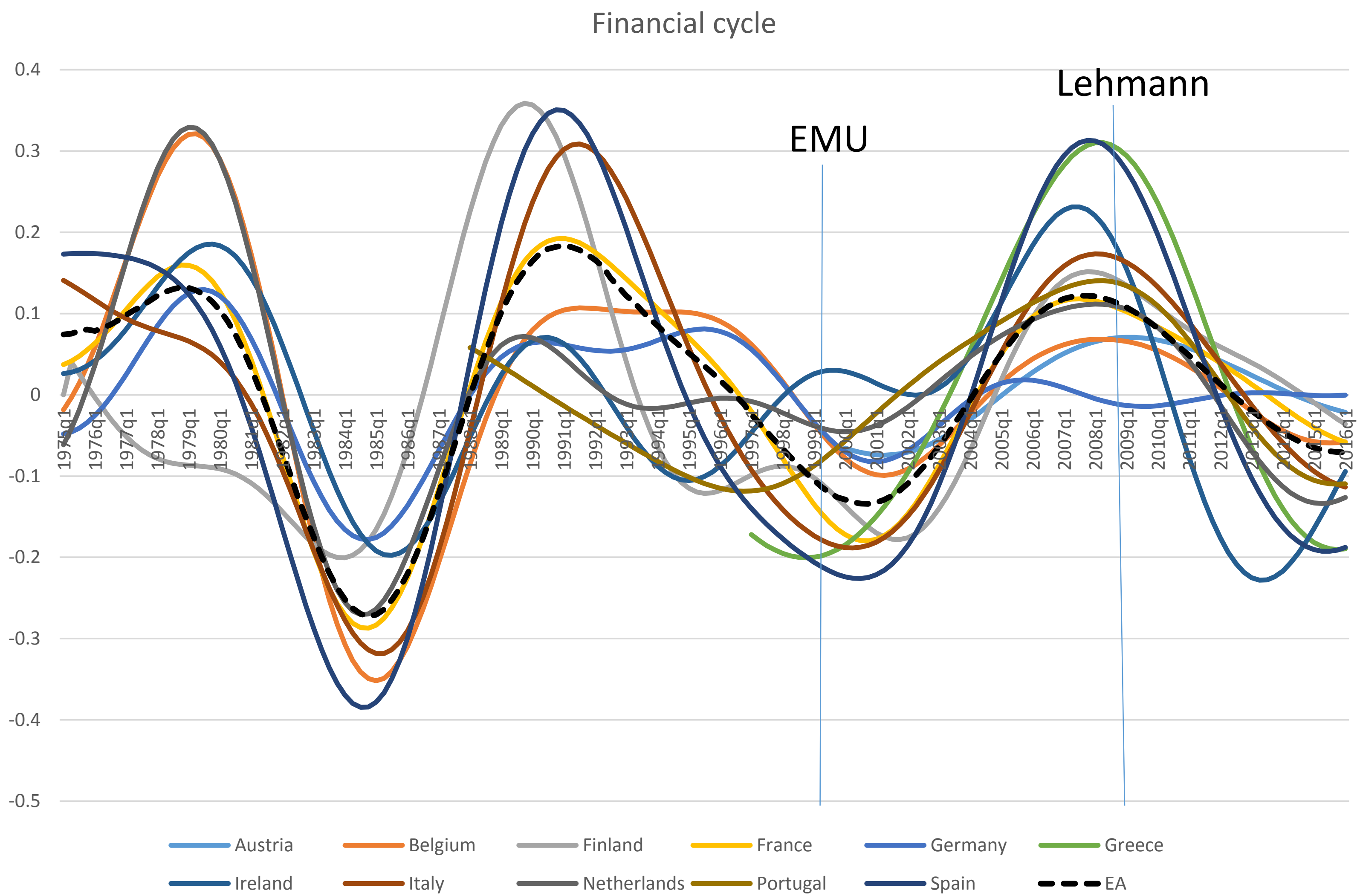
Data – financial variables



Financial cycle (II)

- Methodology
  - Following Aikman et al. (2015) and Drehmann et al. (2012) we opt for a univariate frequency based filter (band-pass) (Christiano and Fitzgerald (2003))
    - de-trend individual time series and then aggregate to get a measure of the financial cycle
  - Preferred to other methodologies
    - We also identify turning points following Harding and Pagan (2002) – the technique not directly suitable for the second step
    - Principal component analysis – not meaningful with 2 variables – the common element explained by the 2 series is just the correlation
    - Multivariate unobserved components models – rather complex and lead to results similar to other simpler methodologies

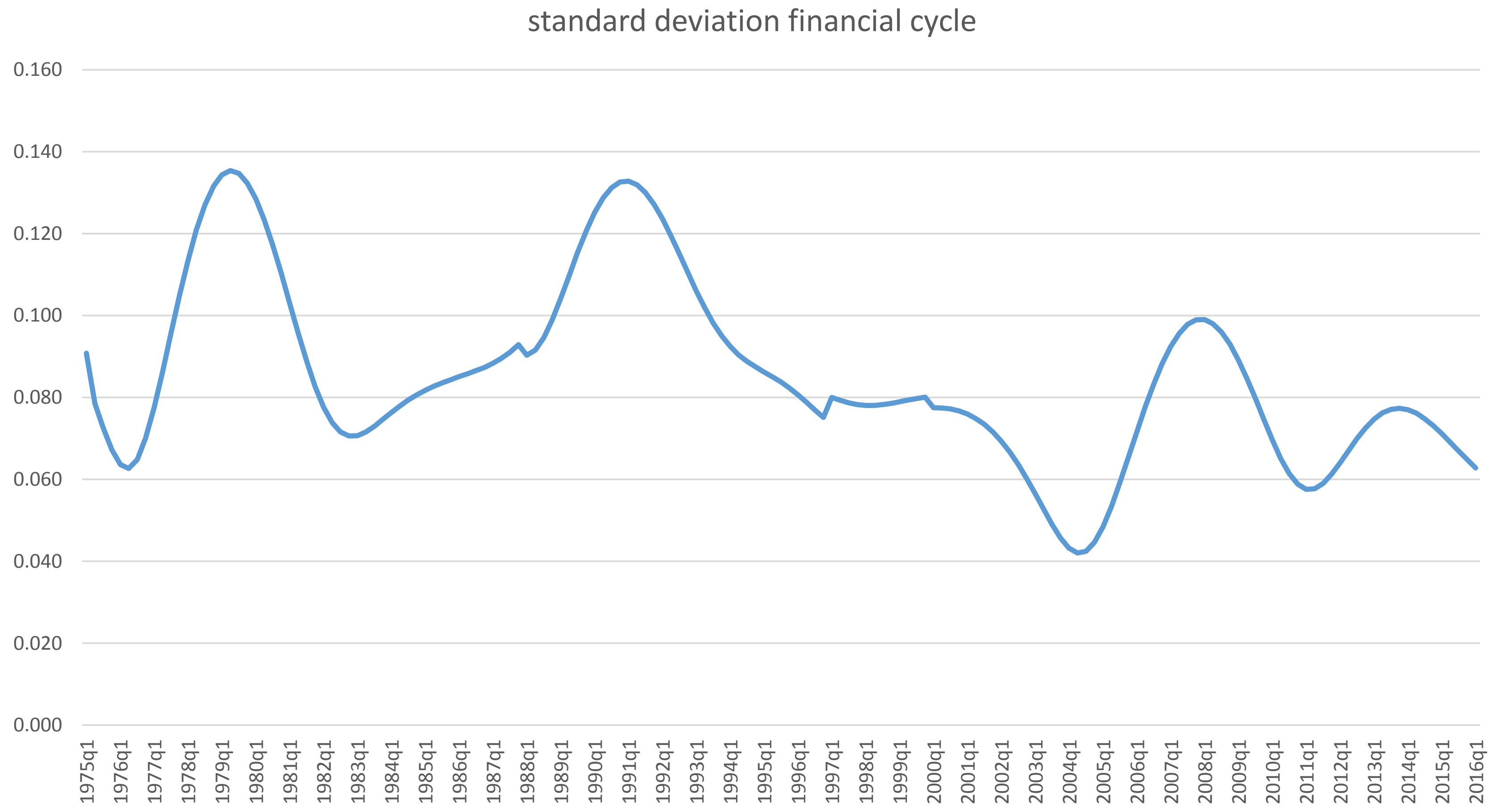
Financial cycle - evidence



Financial cycle – correlation among MS (1975-2016)

	AT	BE	FI	FR	DE	GR	IRE	IT	NL	PT	SP
AT	1										
BE	0.93	1									
FI	0.98	0.22	1								
FR	0.94	0.86	0.64	1							
DE	0.70	0.92	0.33	0.86	1						
GR	0.77	0.77	0.81	0.87	0.30	1					
IRE	0.21	0.61	0.20	0.51	0.42	0.65	1				
IT	0.92	0.73	0.69	0.95	0.70	0.95	0.49	1			
NL	0.51	0.90	0.24	0.75	0.76	0.95	0.79	0.61	1		
PT	0.55	0.08	0.46	0.35	-0.26	0.96	0.70	0.41	0.82	1.00	
SP	0.81	0.69	0.75	0.92	0.63	0.99	0.63	0.96	0.68	0.62	1

Financial cycle – dispersion



Financial cycle – amplitude of the cycle

	Austria	Belgium	Finland	Germany	France	Netherlands
EA-11	0.523***	1.050***	0.788***	0.487***	1.048***	0.834***
	(0.024)	(0.052)	(0.071)	(0.024)	(0.010)	(0.054)
R^2	0.791	0.733	0.405	0.681	0.981	0.597

Note: quarterly data 1975Q1- 2016Q3. The dependent variable is the CF-filtered financial cycle of the respective country. HAC (heteroscedasticity- and autocorrelation-) consistent standard errors

	Italy	Greece	Spain	Portugal	Ireland
EA-11	1.310***	2.068***	1.683***	0.390***	0.618***
	(0.032)	(0.076)	(0.042)	(0.070)	(0.050)
R^2	0.929	0.889	0.905	0.183	0.347

Note: quarterly data 1975Q1- 2016Q3. The dependent variable is the CF-filtered financial cycle of the respective country. HAC (heteroscedasticity- and autocorrelation-) consistent standard errors

The business cycle

- In the EA correlation in business cycle is very high (DE is an exception). It increased after the euro and then fell after 2010
- Different size (De Grauwe & Ji – 95-2014, Belke et al.)
  - DE, BE AT much smaller, GR, SP; IR much larger
- Is it related to financial cycle?
  - DE also smaller, SP and GR the largest

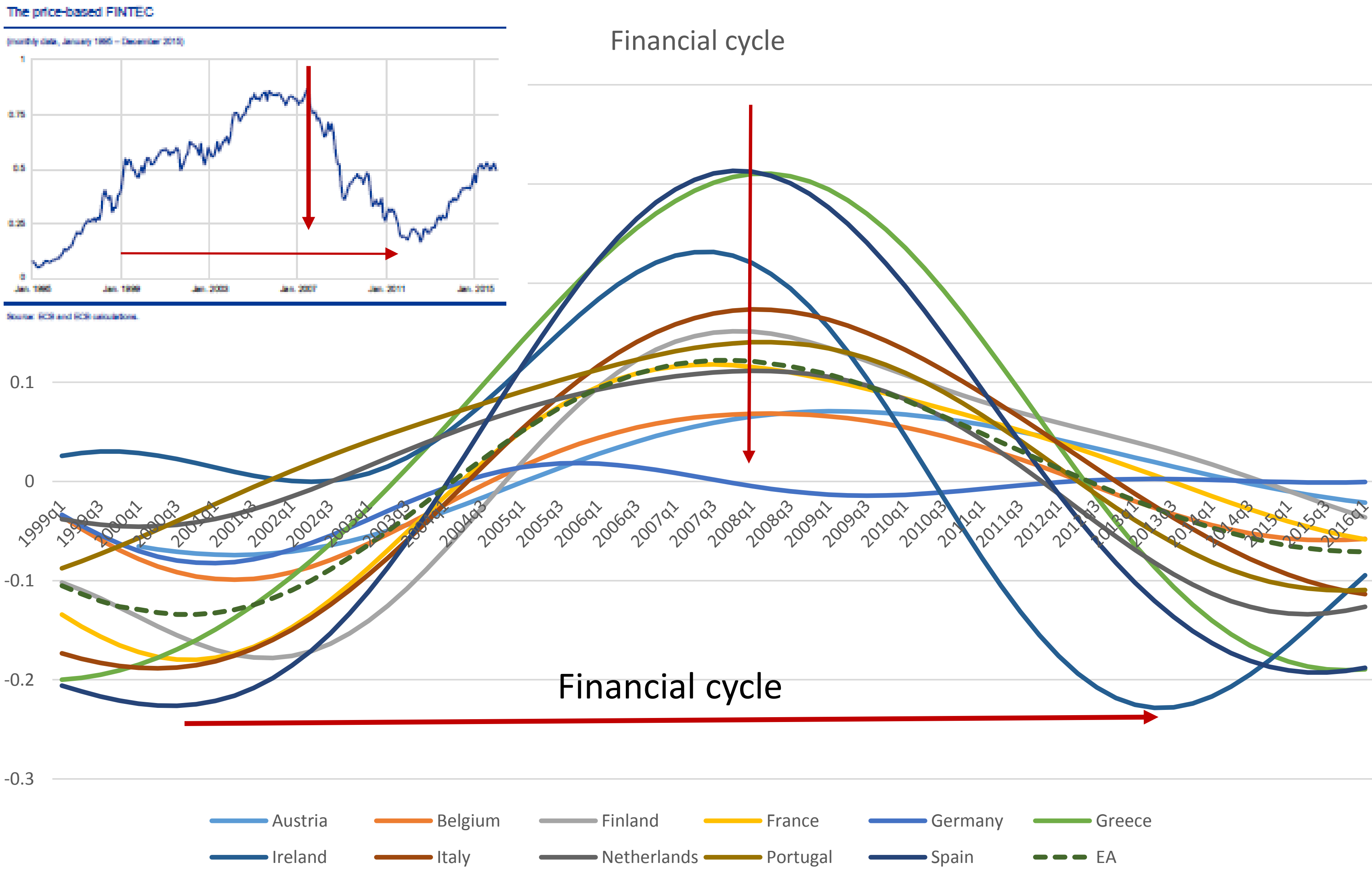
Interaction financial and business cycles

- From the literature
- Financial cycles are usually longer (15/20 years) and larger amplitude (distance from peak to trough) than traditional business cycles
- Limited correlation between credit/housing cycles and the usual business cycle but
  - Higher correlation with medium term GDP cycle
  - Major peaks and through are aligned
  - Recessions associated with financial disruptions are deeper

Financial cycle & financial integration in the EA (I)

- Two different concepts
- Financial cycle measured through behaviour of credit cycle and housing cycle
- Measures of financial integration (quantity and price in 4 markets money market, bond markets, equity markets and banking markets) – EA-wide indicator
- How does financial integration and fragmentation relate to the financial cycle in the EMU?
- Financial integration does not necessarily mean credit bubble, credit/housing bust does not necessarily imply financial fragmentation

Financial cycle & financial integration in the EA (II)



Financial cycle and integration

- Prima facie evidence suggests financial cycle similar to integration pattern
  - To be investigated further

- From a fiscal policy perspective what matters the most: financial cycle or integration?
  - Financial integration should be relevant as channel for risk sharing – increase completeness of markets and hence capital market risk sharing
  - What about the effect on fiscal policy?

Financial cycle and fiscal policy

- In theory the financial cycle <u>does affect</u> the capacity of fiscal policy to deal with shocks
  - Upturn of the financial cycle:
    - More government's borrowing – cheap credit=more debt
    - Growing housing prices and construction sector:
      - Effect on business cycle – GDP growth
      - More tax revenues – illusion of "sound" fiscal position
  - Downturn of the financial cycle
    - Less and more expensive credit, problem if debt is high (see Borio et al. 2016)
    - Fall in tax revenues – suddenly weak fiscal position
    - Potentially fall in GDP – effect on business cycle (e.g. contraction in constructions sector and consumption)
    - Increase in unemployment (and possibly poverty): automatic stabilizers under stress if too long

Fiscal policy in the euro area – what do we know?

- Discretionary fiscal stance. From the literature
  - Pro-cyclical in good times
  - Acyclical in bad time
  - Real-time data: less pro-cyclical
  - New empirical analysis including recent years:

$$(1)\ \Delta CAPB_{i,t} = \alpha + \beta_1 \Delta CAPB_{it-1} + \beta_2 Debt_{i,t-1} + \beta_{OG}^{p} OG_{i,t}^{p} + \beta_{OG}^{n} OG_{i,t}^{n} + \varepsilon_{i,t}$$

  - Results are not necessarily in line with the past literature
  - Fiscal policy seems independent of the cycle always
  - Risk premia and fiscal rules
    - Do not systematically affect the cyclicality but induce tighter fiscal stance
- Discretionary fiscal effort (Carnot & De Castro, 2015)
  - More pro-cyclical & stop and go than in literature
- How relevant is discretionary fiscal stance to assess stabilization capacity?
- Automatic stabilizers should be more important
  - Macro empirical analysis difficult – cyclical by definition

Next steps

- Complete the analysis of the financial cycle
  - Robustness check of cycle using turning points
  - Investigate links with business cycle
  - Investigation of interaction between financial integration and financial cycle
- Empirical analysis: does financial cycle affects fiscal policy stance (discretionary & automatic stabilizers)?
  - Consider alternative specifications
  - Short sample is an issue

Thank you