Demand effects of financialisation and changes in functional income distribution in the EU

Engelbert Stockhammer & Rafael Wildauer

Kingston University, London

PERG

Political Economy Research Group

Kingston University London

Outlook

- Deep crisis in Europe
- Crisis originated in the USA ('subprime crisis'), but only in parts of Europe it turned into a depression
  - Reason for this escalation of the crisis in Europe is the dysfunctional, neoliberal policy regime in the Euro area.
- This study: analysis of growth models: wage-led growth vs profit-led growth. Emergence of debt-driven and export-driven growth models.
- Look at effects of real estate prices and household debt and GDP and its components, consumption and investment
- Econometric analysis of a panel of 12 EU economies, 1980-2011
- Based on post-Keynesiam macro model that has prominent role for income distribution as well as for finance and debt.

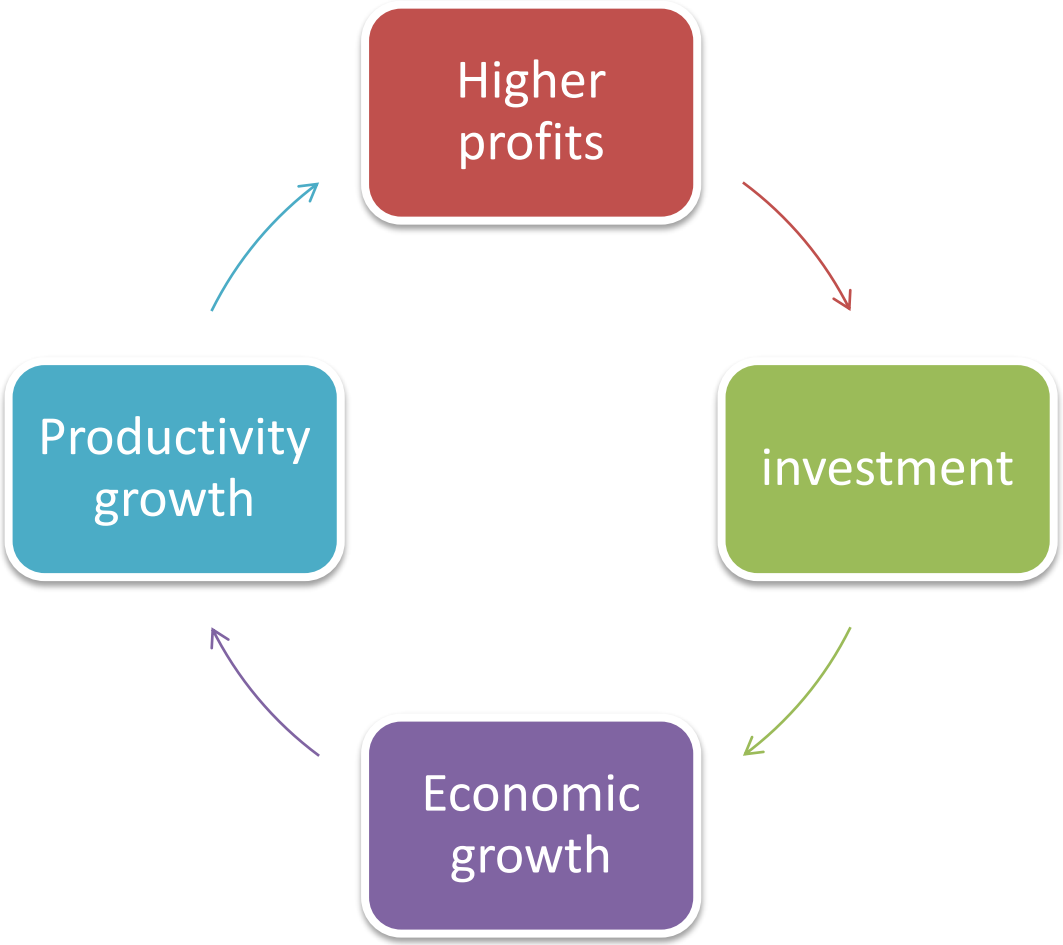
Growth models: wage-led growth, profit-led, debt-driven growth, export-driven growth

Growth regimes: economic structure and distributional policies

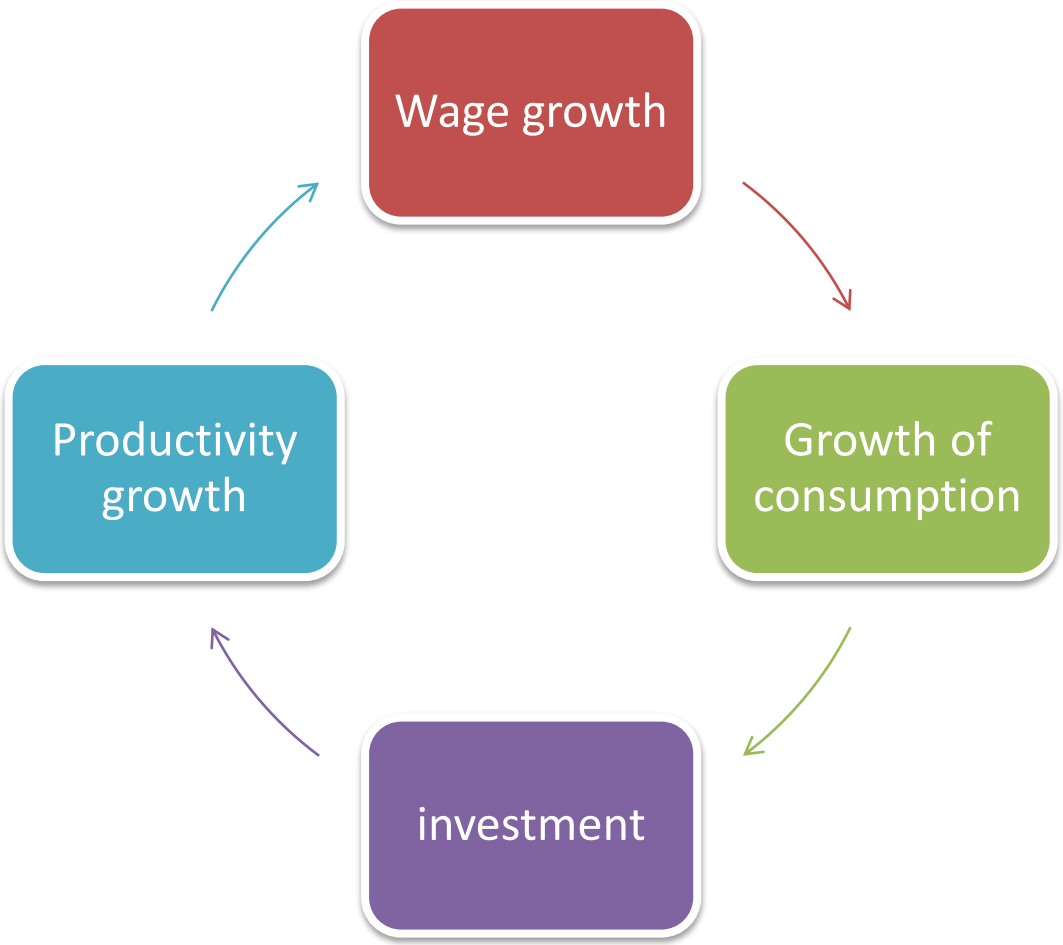
		Distributional policies		
		Pro-capital	**Pro-labour**	Other factors
Economic structure	**Profit-led**			
	Wage-led			
Other factors				

- Economic structure

A profit-led growth process



A wage-led growth process



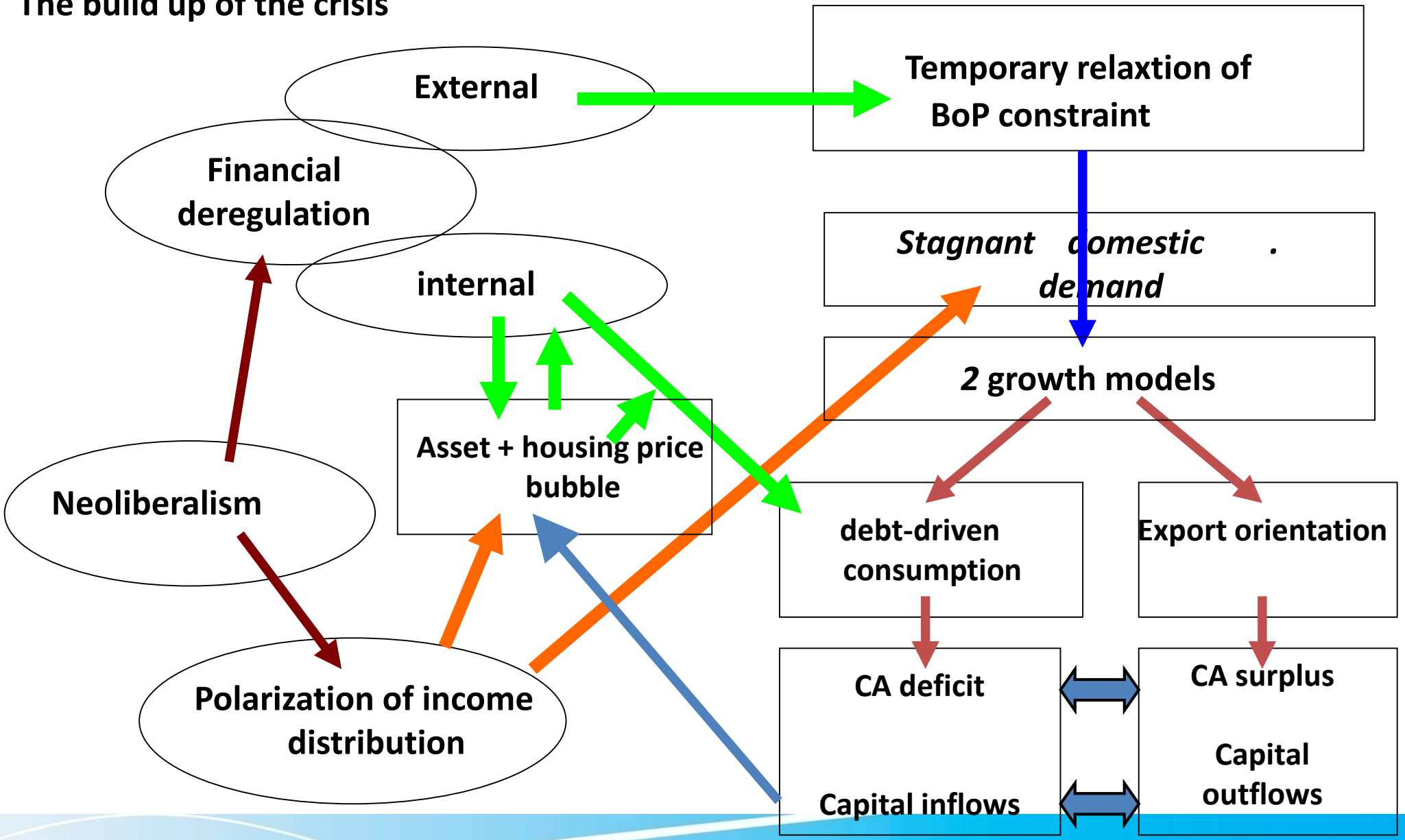
Viability of growth models

		Distributional policies	
		Pro-capital	**Pro-labour**
Economic structure	**Profit-led**	Profit-led growth process	Stagnation or unstable growth
	Wage-led	Stagnation or unstable growth	Wage-led growth process

Classifying growth strategies

		Distributional policies	
		Pro-capital	**Pro-labour**
Economic structure	**Profit-led**	'Neoliberalism in theory' – Trickle-down growth	'doomed social reform'
	Wage-led	'actually existing neoliberalism' – unstable and has to rely on exogenous growth drivers (debt-driven growth and export-driven growth)	Postwar social Keynesianism Wage-led growth strategy

The build up of the crisis



Increase in household debt (% of GDP)

Increase in HH debt (in % GDP) 2000-08			
Germany	-11.3	USA	26
Netherlands	32.8	UK	28.1
Austria	7.9		
		Ireland	62.7
		Greece	35.5
France	15.8	Spain	33.8
		Portugal	27.4
Source: Eurostat; USA: FoF			

The model
Econometric results

The model

- extend Bhaduri Marglin framework in order to test competing hypothesis
  - personal income distribution:

    Consumption cascades vs Kalecki
  - wealth and debt

    rational vs no aggregate vs collateral/Minsky vs stock/flow
  - Growth drivers (1997-2007): debt-driven growth?
- panel of 12 EU countries, 1980-2011

Basic Bhaduri Marglin model

$$Y = C(Y, WS, Z_C) + I(Y, WS, Z_I) + NX(Y, WS, Z_{NX})$$

- $\frac{\partial C}{\partial WS} > 0; \frac{\partial I}{\partial WS} < 0; \frac{\partial NX}{\partial WS} < 0;$
- WS ... wage share (W/Y)
- no disagreement over signs of $\frac{\partial C}{\partial WS}$ and $\frac{\partial I}{\partial WS}$

$$\frac{dY^*}{dWS} = h_1/(1 - h_2)$$

- $h_1 = \frac{\partial C}{\partial WS} + \frac{\partial I}{\partial WS} + \frac{\partial NX}{\partial WS}$
- $h_2 = \frac{\partial C}{\partial Y} + \frac{\partial I}{\partial Y} + \frac{\partial NX}{\partial Y}$

- If $h_1 < 0$ profit-led demand
- If $h_1 > 0$ wage-led demand

An extended Bhaduri-Marglin model

- consumption:
  $C = f(Y, WS, Q, PP, SP, DH)$
- investment:
  $I = f(Y, WS, i, Q, PP, SP, DH, DB)$
- foreign sector:
  $X = f(Y^f, WS, ex, PP)$
  $M = f(Y, WS, X, ex, PP)$

dep. var:	C	I	I
excl. IE	no	no	yes
Y_t	0.776***	1.721***	1.664***
	(0.09)	(0.08)	(0.07)
Y_{t-1}		-0.341***	-0.355***
		(0.11)	(0.13)
WS_t	0.271***	0.480**	0.293**
	(0.08)	(0.20)	(0.15)
WS_{t-1}		-0.442***	-0.474***
		(0.15)	(0.17)
i_t		-0.321**	-0.300**
		(0.14)	(0.15)
DH_t	0.074***	0.124*	0.076
	(0.02)	(0.06)	(0.07)
DH_{t-1}		-0.365***	-0.270***
		(0.10)	(0.06)
PP_t	0.013	0.210***	0.195***
	(0.01)	(0.04)	(0.04)
PP_{t-1}		0.152***	0.131**
		(0.06)	(0.05)
SP_t	0	0.052***	0.048***
	(0.00)	(0.01)	(0.01)
$TOP1_t$	0.011	0.017	-0.013
	(0.01)	(0.06)	(0.05)
N	310	298	290
uncent. R^2	0.86	0.79	0.79

First difference estimation, robust standard errors in parentheses. Stars indicate statistical significance * p<0.1, ** p<0.05, *** p<0.01

dep. var:	X	M
Y^f_t	2.035***	
	'(0.15)	
Y^f_{t-1}	-0.226*	
	'(0.13)	
WS_t	-0.735***	0.251***
	'(0.27)	'(0.08)
WS_{t-1}		-0.148*
		'(0.08)
ex_t	-0.158***	0.078**
	'(0.05)	'(0.03)
ex_{t-1}	-0.087*	0.078***
	'(0.05)	'(0.02)
PP_t	-0.077**	0.114***
	'(0.03)	'(0.04)
PP_{t-1}	0.095**	
	'(0.04)	
Y_t		1.275***
		'(0.22)
Y_{t-1}		-0.264***
		'(0.07)
X_t		0.509***
		'(0.05)
N	315	326
uncent. R^2	0.757	0.853

First difference estimation, robust standard errors in parentheses. Stars indicate statistical significance * p<0.1, ** p<0.05, *** p<0.01

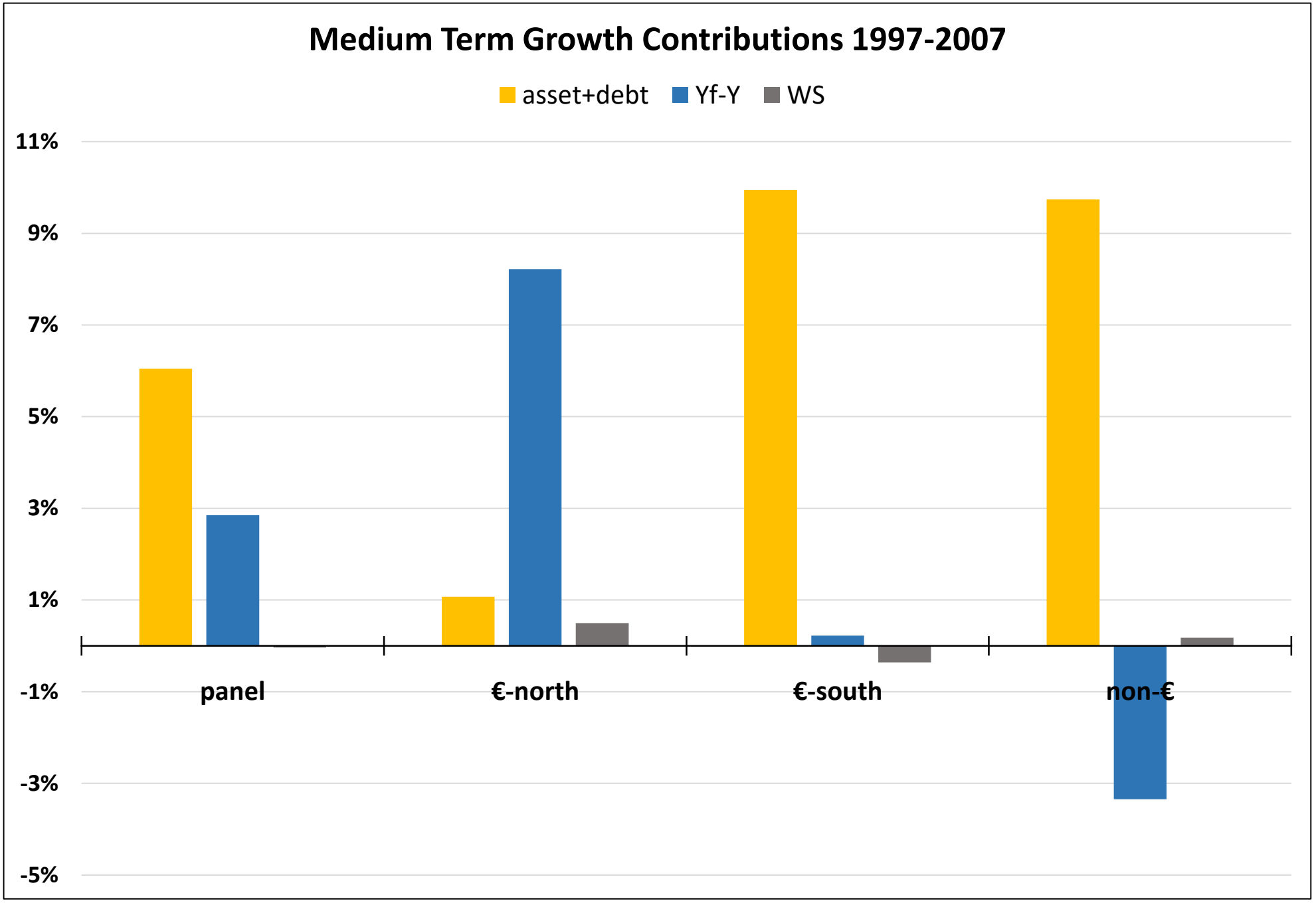
Demand regimes
and
Growth contributions

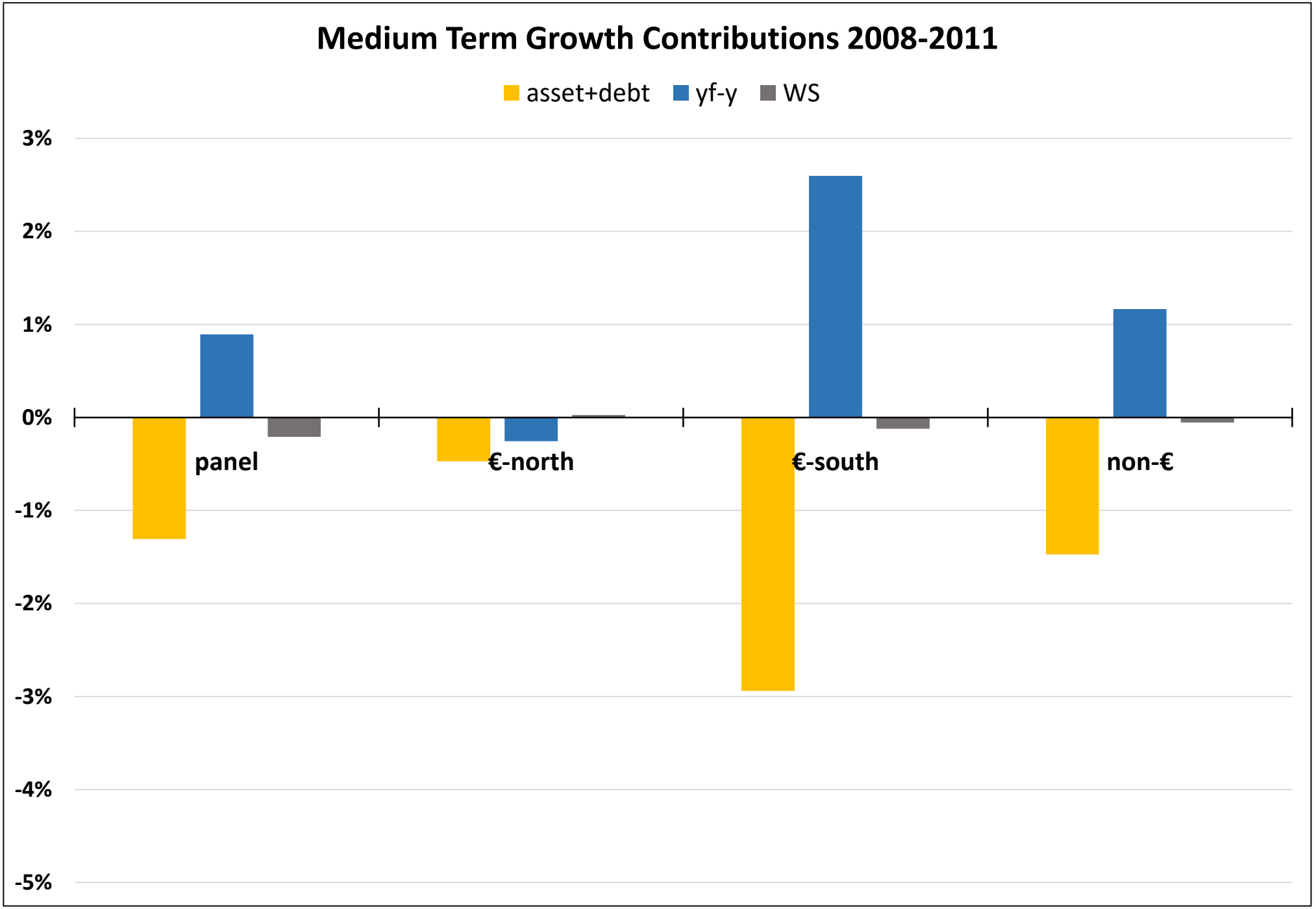
Private excess demand

	Panel	€-north	€-south	non-€	Germany	France	Netherlands
C	0.23%	0.23%	0.25%	0.23%	0.24%	0.23%	0.20%
I	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
NX	-0.22%	-0.29%	-0.18%	-0.19%	-0.24%	-0.16%	-0.44%
Y^{PED}	0.03%	-0.05%	0.08%	0.05%	0.01%	0.07%	-0.23%
openness	31%	40%	25%	29%	32%	24%	60%

Effects are based on coefficients from domestic and foreign sector regression results. Elasticities are converted into marginal effects using GDP weighted sample averages. Openness is computed as the average of nominal import and export shares.

- Domestic demand is wage led
- Very open economies can have profit-led demand


Medium Term Growth Contributions 1997-2007
asset+debt
Yf-Y
WS
11%
9%
7%
5%
3%
1%
-1%
-3%
-5%
panel
€-north
€-south
non-€


Medium Term Growth Contributions 2008-2011
asset+debt
yf-y
WS
3%
2%
1%
0%
-1%
-2%
-3%
-4%
-5%
panel
€-north
€-south
non-€

Summary findings

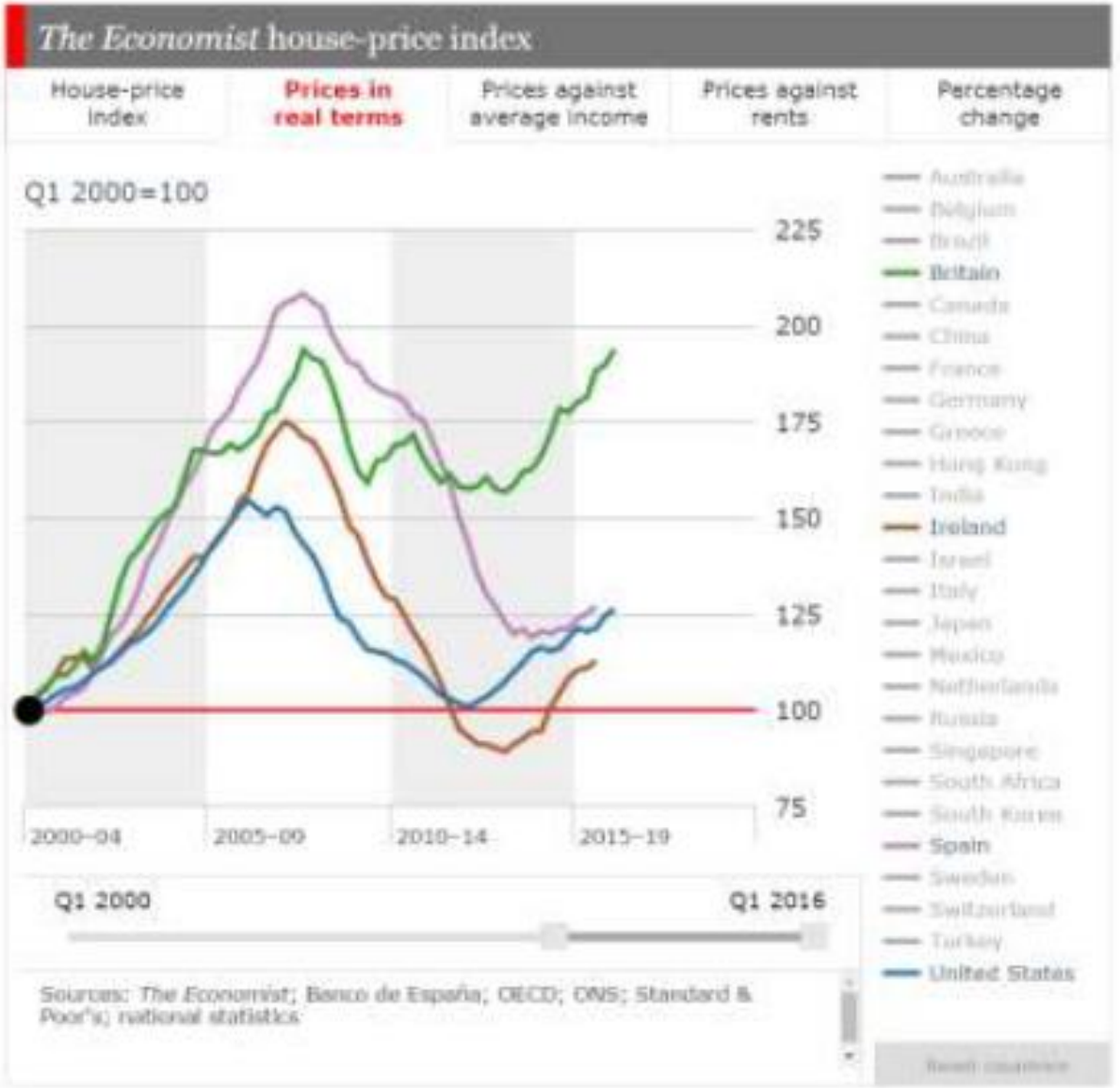
- We find overall wage-led demand regimes
- … but these effects are relatively small
- Effects of real estate prices and household debt much larger
- Southern Euro area countries, Ireland and UK: very strong growth contribution of debt and property prices prior to the crisis.
- Property bubble major cause of Global Financial Crisis.
- Different fiscal policies explain large part of different economic performance since the crisis.

The UK: addicted to the debt-driven growth model

Location, location, location

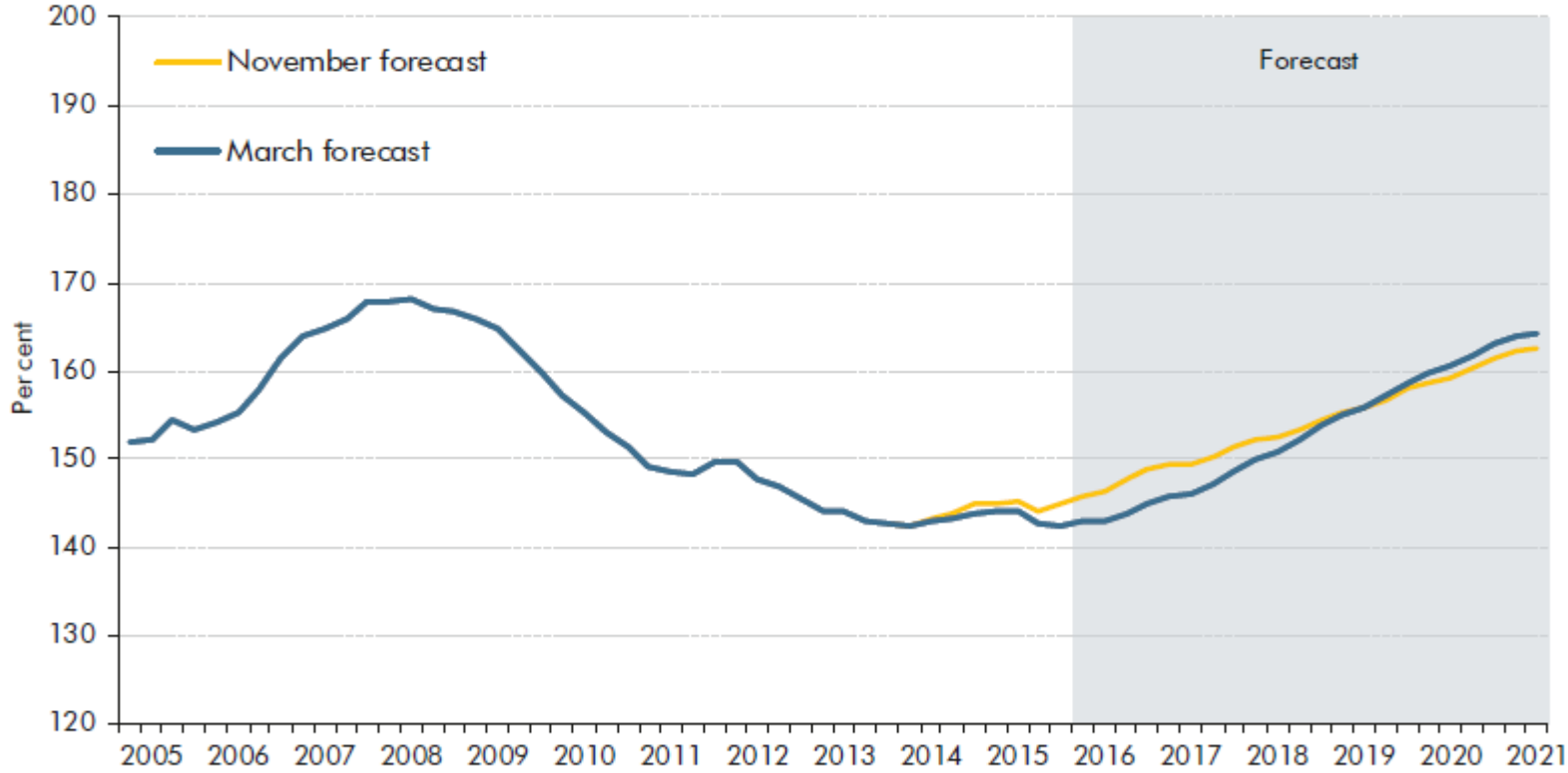
Global house prices

Mar 31st 2016, 15:00 by THE DATA TEAM



OBR 2016 March

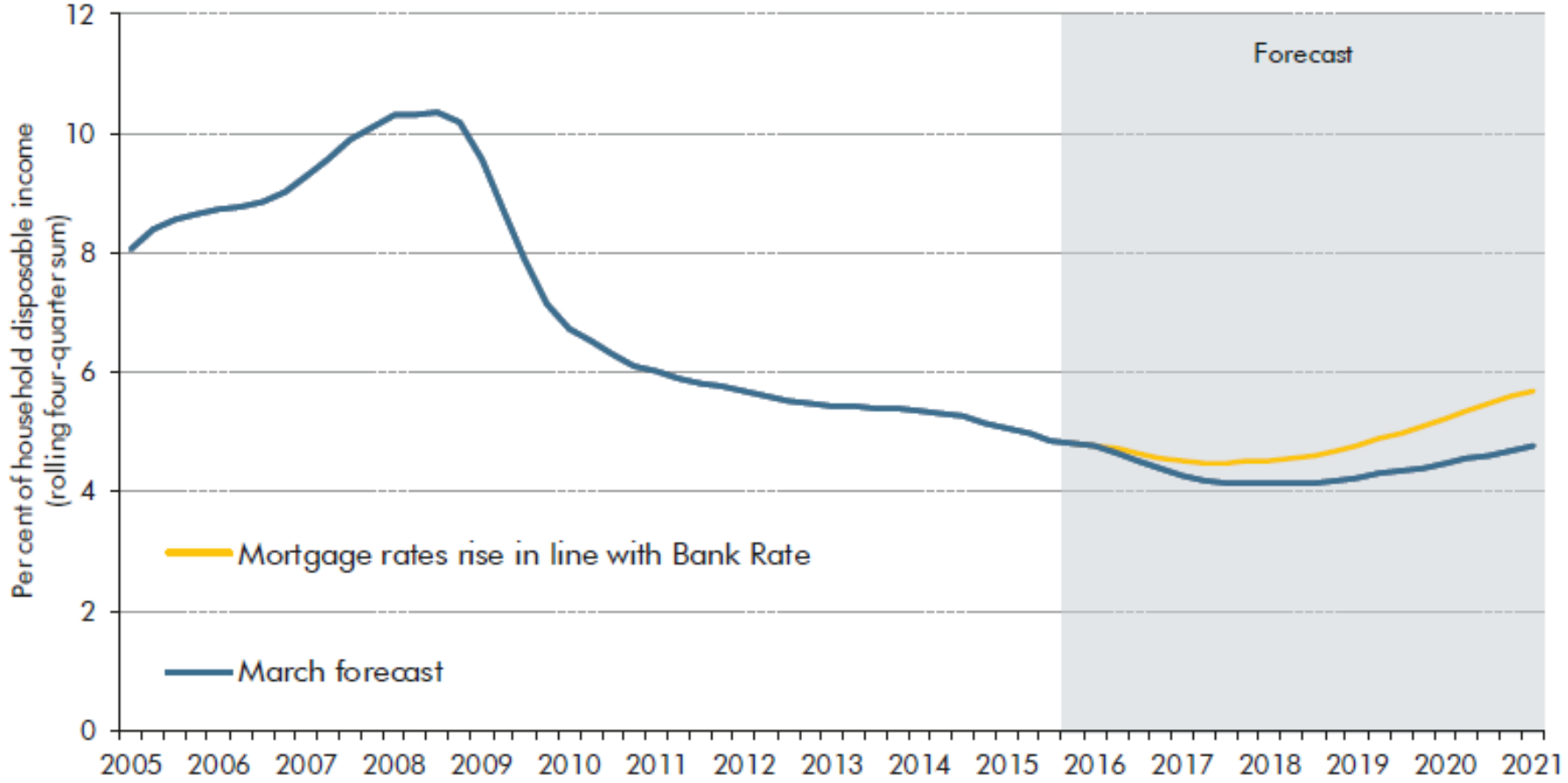
Chart 3.29: Household gross debt to income



Source: ONS, OBR

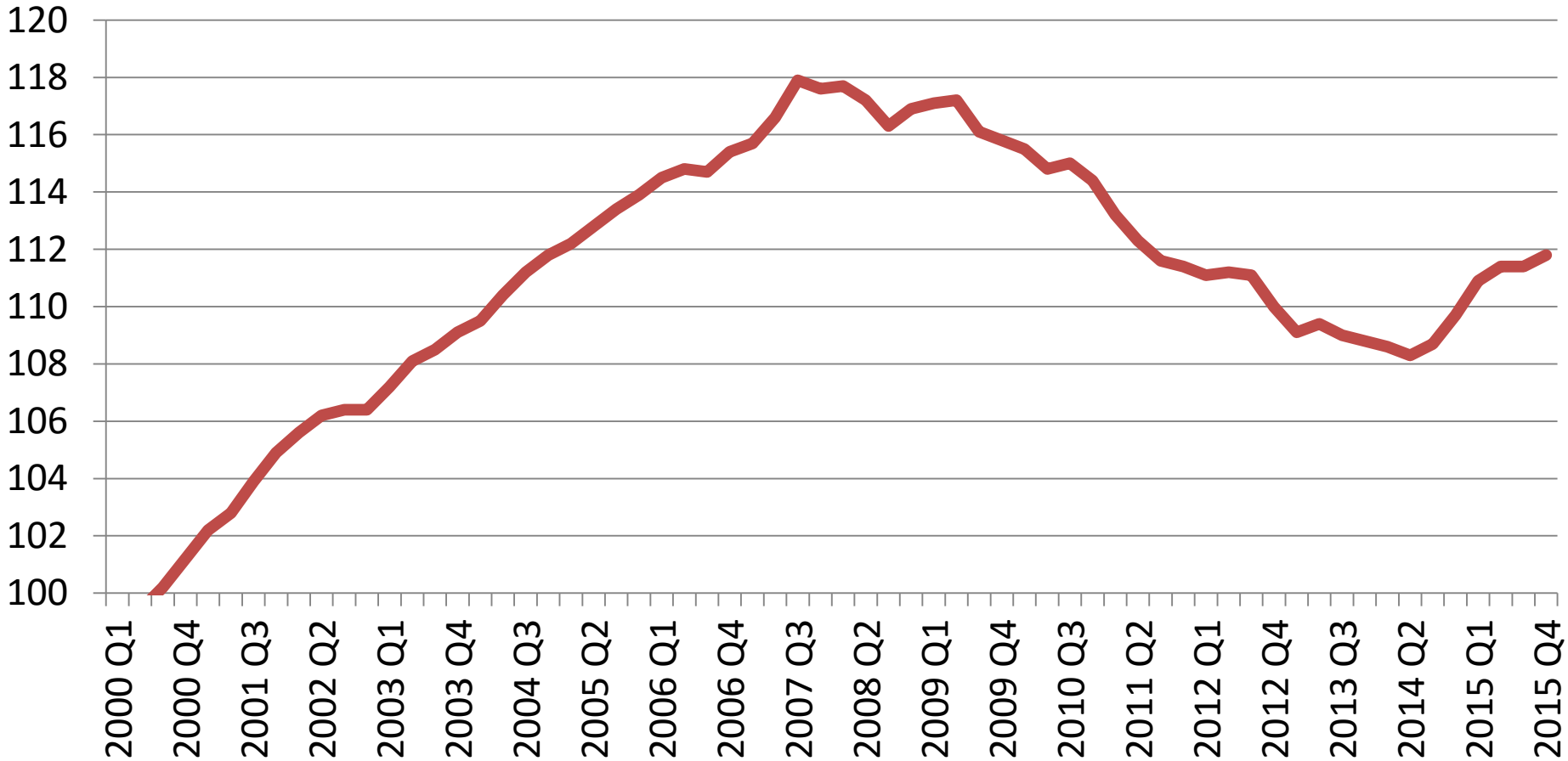
OBR 2016. debt servicing costs

Chart 3.31: Household debt servicing costs



Source: ONS, OBR

real weekly earnings (2000=100) (ONS)



UK growth: addicted to debt

- Unlike other debt-driven economies, the UK has not experienced the bursting of the real estate bubble yet
- The growth of household debt is key part of the OBR forecasts.
- Growth relies on rising real estate prices and low interest rates.
- Real wages are still 5% below the 2007 level.
- This is a rather unstable growth model.

Conclusion

Policy conclusions 1

- Emergence of debt-driven and export-driven growth models.
- Both are unstable growth models that rely on rising debt.
- Real estate booms and rising household debt have been powerful drivers of economic growth …
- … and major cause of the Global Financial Crisis.
- Rapidly rising *private* debt, not public debt, was the cause of the crisis.
- In the crisis, need fiscal policies to stabilise demand and employment. That's the opposite of what southern European countries have been doing. Need a Europeanisation of public debt.

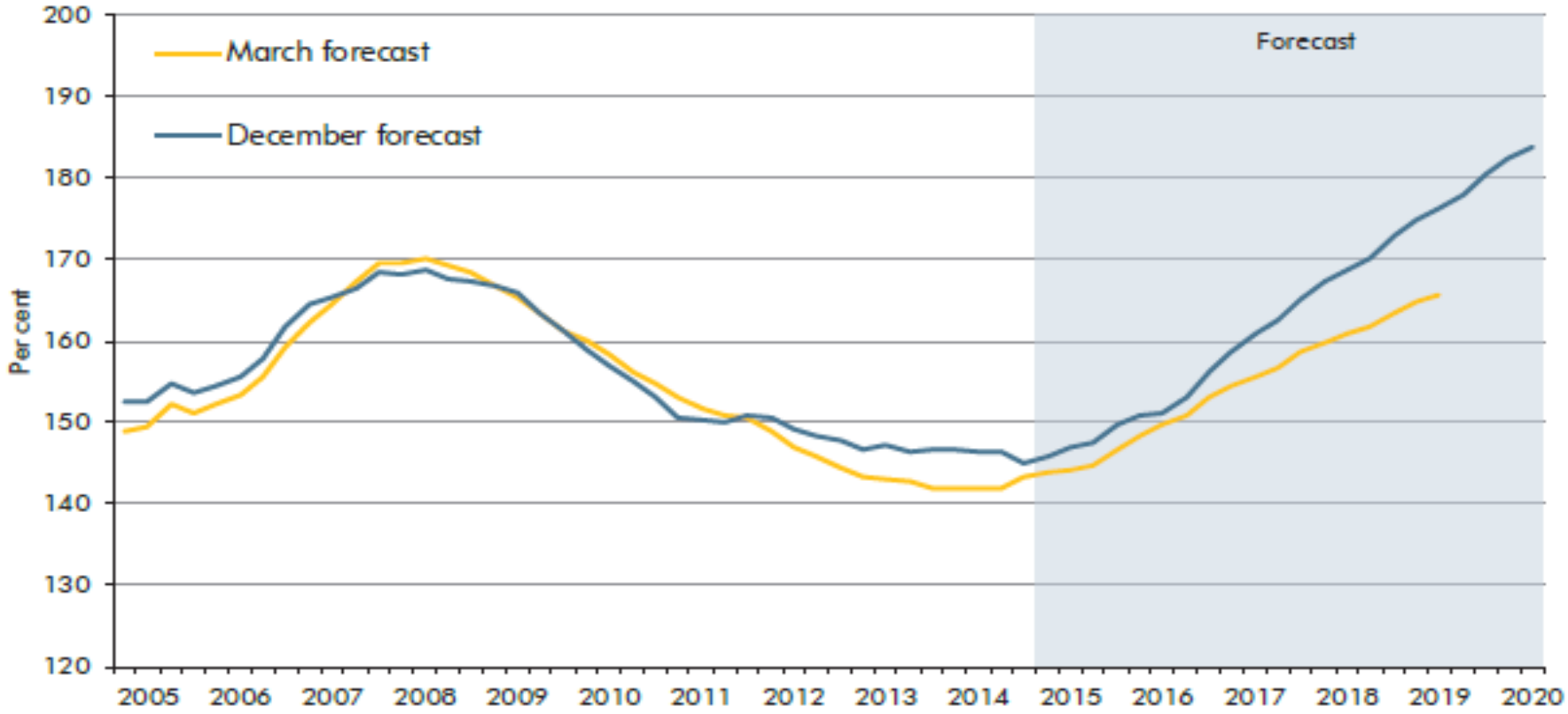
Policy Conclusions 2

- The UK is trying to re-ignite the debt-driven growth model.
- We need a balanced growth model that relies on wage growth rather than on debt growth to finance consumption expenditures. => *wage-led growth*
- Pro-labour distributional policies: minimum wage, union legislation
- De-financialisation: financial regulation
- Public sector as growth engine on supply side: housing, social infrastructure, industrial policy

Appendix

OBR (2014 Dec)

Chart 3.31: Household gross debt to income



Source: ONS, OBR

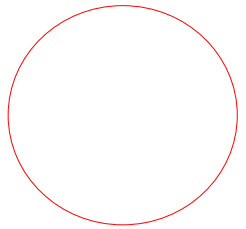
Effects of inequality and wealth: extending the Bhaduri Marglin model

- **Veblen effect: 'keeping up with the (richer) Joneses'**
  - inequality ↑ → consumption emulation → C↑: $\partial C/\partial Q > 0$
  - that's ad odds with Kaleckian intuition: $\partial C/\partial Q < 0$
- **Including wealth and debt**
- $C = C(Y, WS, Q, HW, FW, DH)$
  - rational wealth effects: $NW = HW + FW - DH$, thus $\partial C/\partial(HW + FW) = -\partial C/\partial DH$
  - no aggregate wealth effects: Buiter (2010): $\partial C/\partial HW = 0$
  - Muellbauer: housing is collateral $\partial C/\partial HW > \partial C/\partial FW$
- $C = C(Y, WS, Q, DH, \Delta DH)$, with $\partial C/\partial DH < 0$, $\partial C/\partial \Delta DH > 0$
  - positive flow and negative stock effect
  - Debt-led vs debt-burdened demand regimes (Dutt 2006; Nishi 2012)
  - Minsky for households: $\partial C/\partial HW > 0$ (and $\partial DH/\partial HW >> 0$)
- **Asset-driven growth: if combined effect of**
  - $\beta_{HW}\Delta HW + \beta_{FW}\Delta FW + \beta_{DH}\Delta DH >> 0$
  - for C as well as I

Hypothesis	*Theoretical prediction*	*Implications*
the rich save more	Richer households have a higher propensity to save.	$\frac{\partial C}{\partial Q} < 0$
expenditure cascades	Households make consumption decisions with respect to richer peers.	$\frac{\partial C}{\partial Q} > 0$
housing wealth is no wealth	Rising house prices lead to wealth effect for home owners and higher savings of willing-to-be-homeowners.	$\frac{\partial C}{\partial PP} = 0$
net wealth effect	Net wealth (NW) is the relevant wealth measures for consumption decisions.	$\frac{\partial C}{\partial (PP+SP)} = -\frac{\partial C}{\partial DH}$
credit constraints	Due to credit constraints, changes in housing wealth effect consumption even if shocks are anticipated.	$\frac{\partial C}{\partial PP} > 0$ **and** $\frac{\partial C}{\partial PP} > \frac{\partial C}{\partial SP}$
Minskyian households	Rising asset prices leads to increasingly optimistic lending and spending.	$\frac{\partial C}{\partial PP} > 0$
stock and flow effects of debt	The stock of debt implies interest rate payments which affect consumption negatively whereas the flow of debt affects consumption positively.	$\frac{\partial C}{\partial DH} < 0$ **and** $\frac{\partial C}{\partial \Delta DH} > 0$

the literature

Empirical literature on Bhaduri-Marglin models

	single equation	systems approach	Panel
Basic model (few controls)	Bowles & Boyer 1995 Naastepad & Storm 2006/2007 Hein & Vogel Stockhammer & Stehrer 2011 Onaran & Galanis 2012	Stockhammer & Onaran 2004 Barbosa-Filho & Taylor 2006 Carvalho & Rezai 2014 Rada & Kiefer 2014	Hartwig 2014
Financialisation variables	Hein & Schoder 2011 (USA, D): int, div Onaran et al. 2011 (USA): int, div, FW, HW, D	Nishi 2012a (J): D	
Detailed treatment of globalisation	Stockhammer et al. 2009 Stockhammer et al. 2011		

Extensions of Bhaduri Marglin model

- Onaran et al 2011: extend BM model to include FW, WH, rentier payments and incomes for USA
- Nishi 2012: VAR(3) BM model with debt for Japan
- Carvalho and Rezai (2014): VAR(2) BM with regimes according to high or low personal inequality; USA

Wealth and debt effects in PK literature

- Growing theoretical literature on the effects of finance and debt on growth, but little on consumption
  - Minsky models (Keen 1995, Fazzari 2006, Charles 2008, Ryoo 2013): business debt
  - SFC models: stock flow norms
  - Flow vs stock effects of debt: Dutt (2006), Hein (2012) debt without asset P
- Bezemer et al 2014: panel of 40 countries; growth as function of disaggregated debt; find neg. effect of asset-related debt on growth
- Kim et al (2014): PK theory of consumption based on relative income and rules of thumb; estimate C as function of Y, W, DH, Δ DH for USA
- Zezza (2009): PE = C+I = f(Y, $FA^{F,G}$, SP, PP, ΔDH, ΔDB) for USA
- None of them controls for distribution

Mainstream wealth effects literature

- Rich (if recent) empirical literature, but theoretically ambiguous
  - Rational behaviour assumption (HH never worry about bubbles)
  - No role for debt in baseline NK models
- Girourard et al 2006, Ludwig and Slok 2004, Slacalek 2009
- Muellbauer 2009: credit constraints
- Use either asset P or wealth
- Find wealth MPC ≈ 0.05
  - USA, UK MPC(PP)>>MPC(SP), but not for Eu

Data, Estimation and Results

Data

- 12 EU countries (AT, BE, DE, DK, ES, FI, FR, IE, GB, IT, NL, SE)
- sample: 1980-2011
- Sources:
  - AMECO (national account data)
  - OECD (property prices, stock prices, interest rates)
  - BIS (household debt)
  - World Top Income Database (top income shares)
  - IMF (stock price indices)

Comments on panel estimators

- Panel = impose identical coeffs
- We have a macro panel small N, medium T (N=12, T=31)
  - Compared to much of the panel literature (assumption of large N) we have to worry more about TS aspects
  - Can’t reject unit roots for our variables
- FD preferred estimator