What if you were German?

- a DSGE approach to Great Recession on labour markets -

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IZA/NBS/CELSI Conference on European Labor Markets and the Euro Area during the Great Recession: Adjustment, Transmission, Interactions

Factors behind different labour market outcomes

Differences in country specific shocks…

- Shock identification

…or differences in countries' ability to absorb shocks?

- Counterfactual simulations

DSGE model specification

Search on labour market

Nash wage bargaining

Endogenous job destruction rate

Real open economy

Government sector

Sources of macroeconomic disturbances in the model

Supply side shocks

- Productivity
- Labour supply

Demand side shocks

- Foreign demand
- Labour demand
- Government spending

Labour market features shock

- Wage bargaining
- Job destruction

Country modelling approach

Identical mathematical structure

Countries: Greece, Italy, Portugal, Spain and Germany

Steady state calibration

e.g. production structure, labour market aggregates

Estimation of remaining parameters

e.g. elasticities, stochastic shock processes

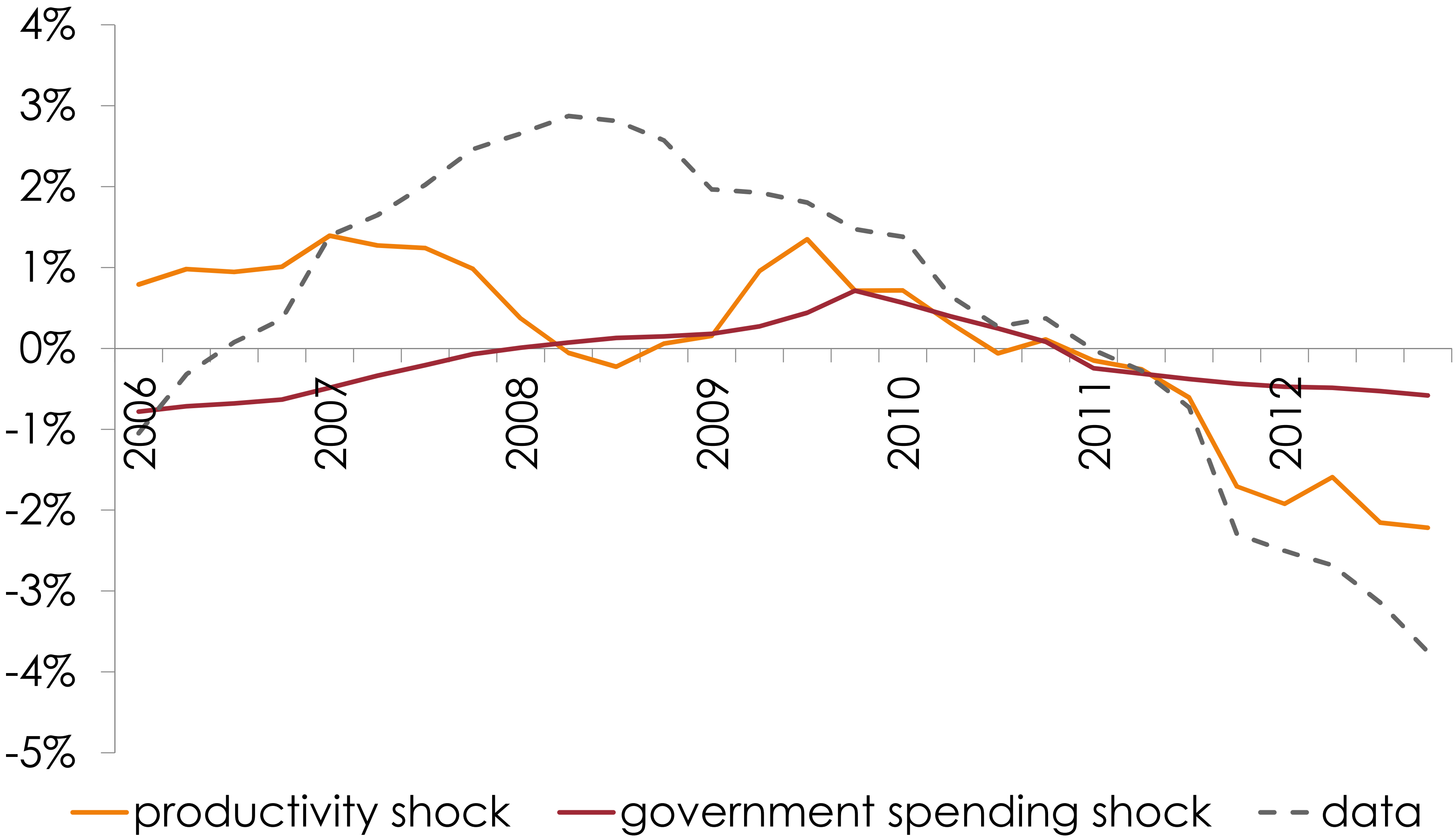
Shocks determining fluctuations in the Great Recession

- HD_j^i is the impact of shock i on variable j
- z_j is the empirical time series of variable j

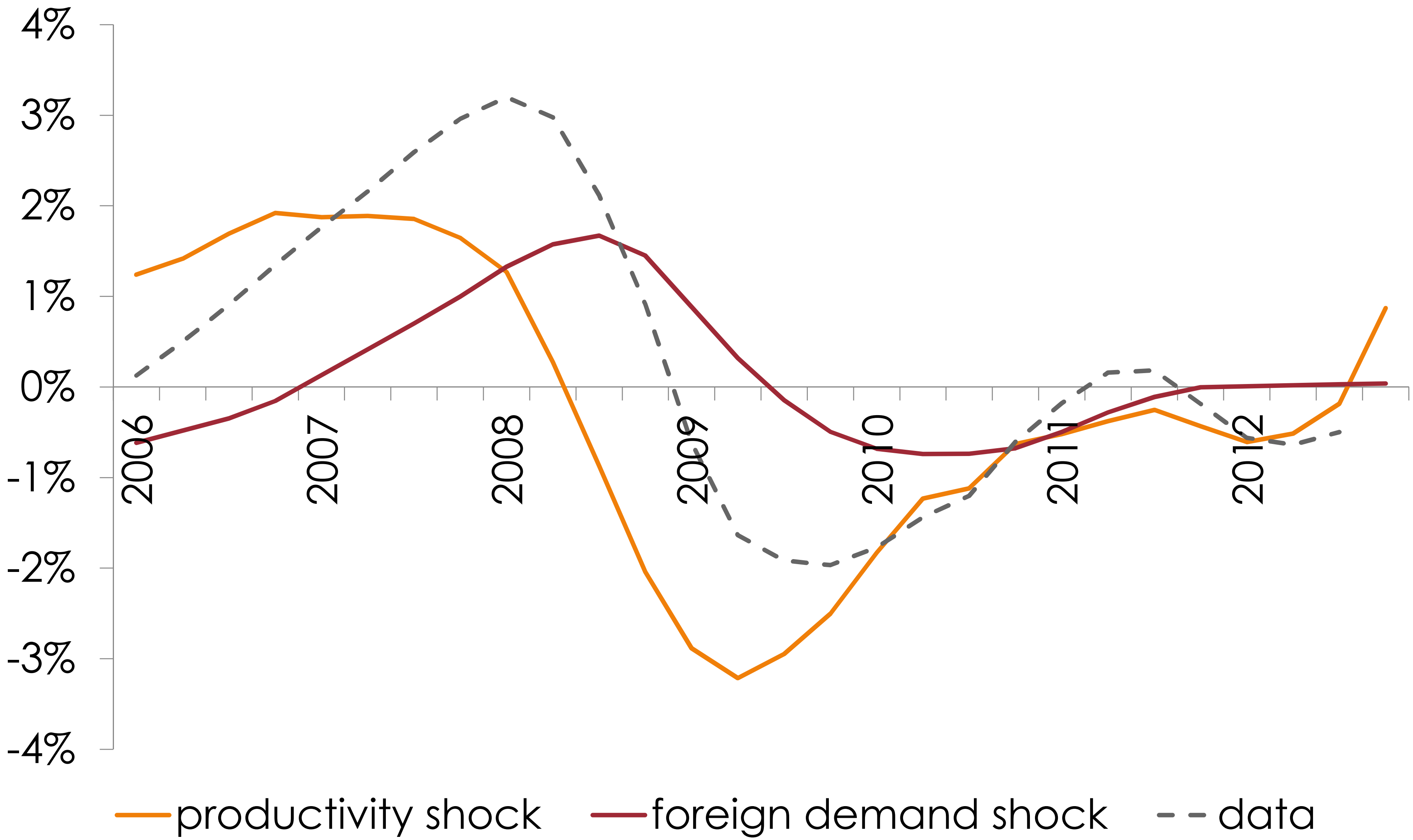
- For each shock and variable we calculate:

$$\kappa_j^i = \frac{cov(HD_j^i, z_j)}{var(z_j)} \qquad \kappa_j = \sum_i \kappa_j^i$$

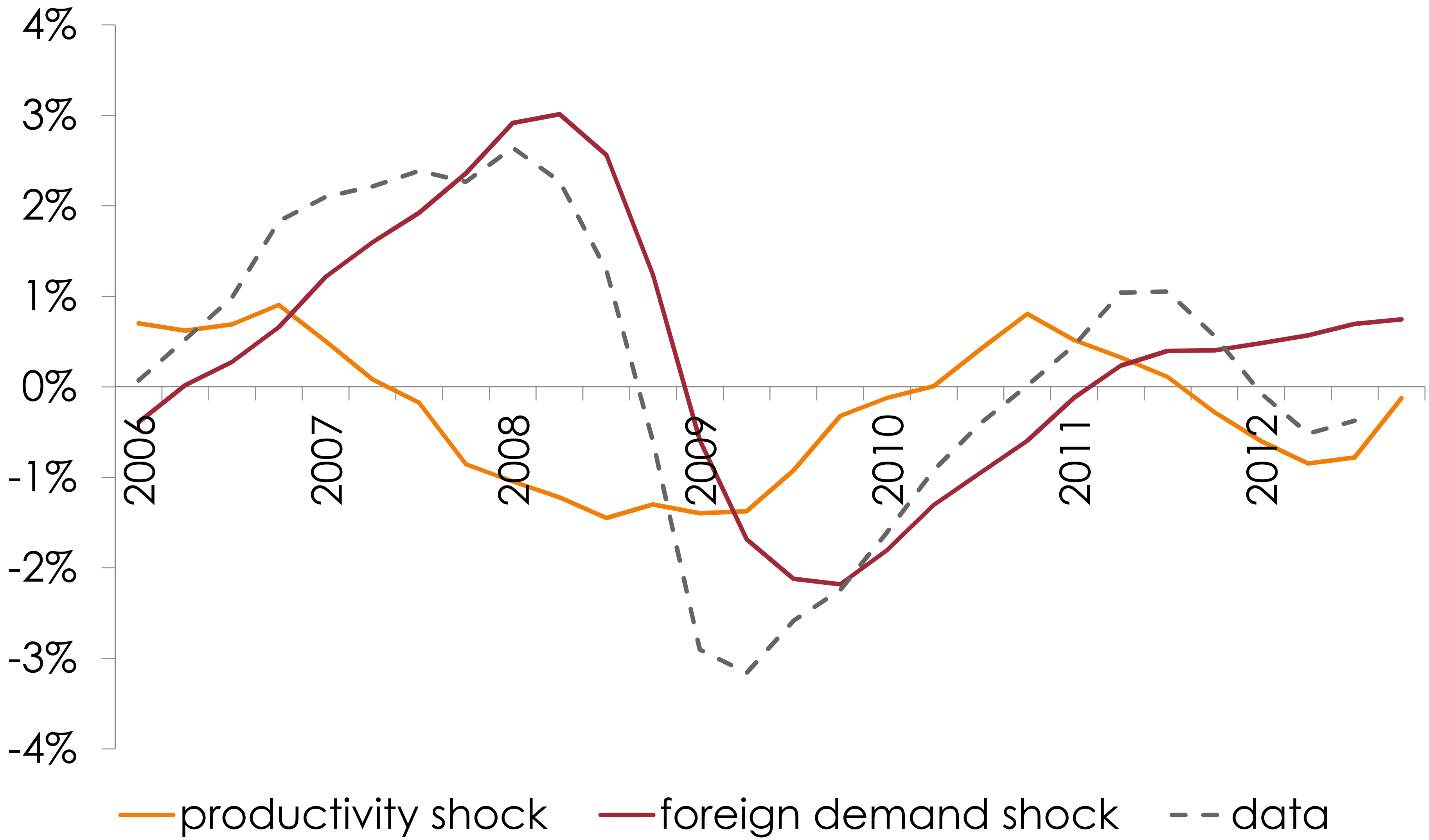
GDP in Greece – procyclical government spending



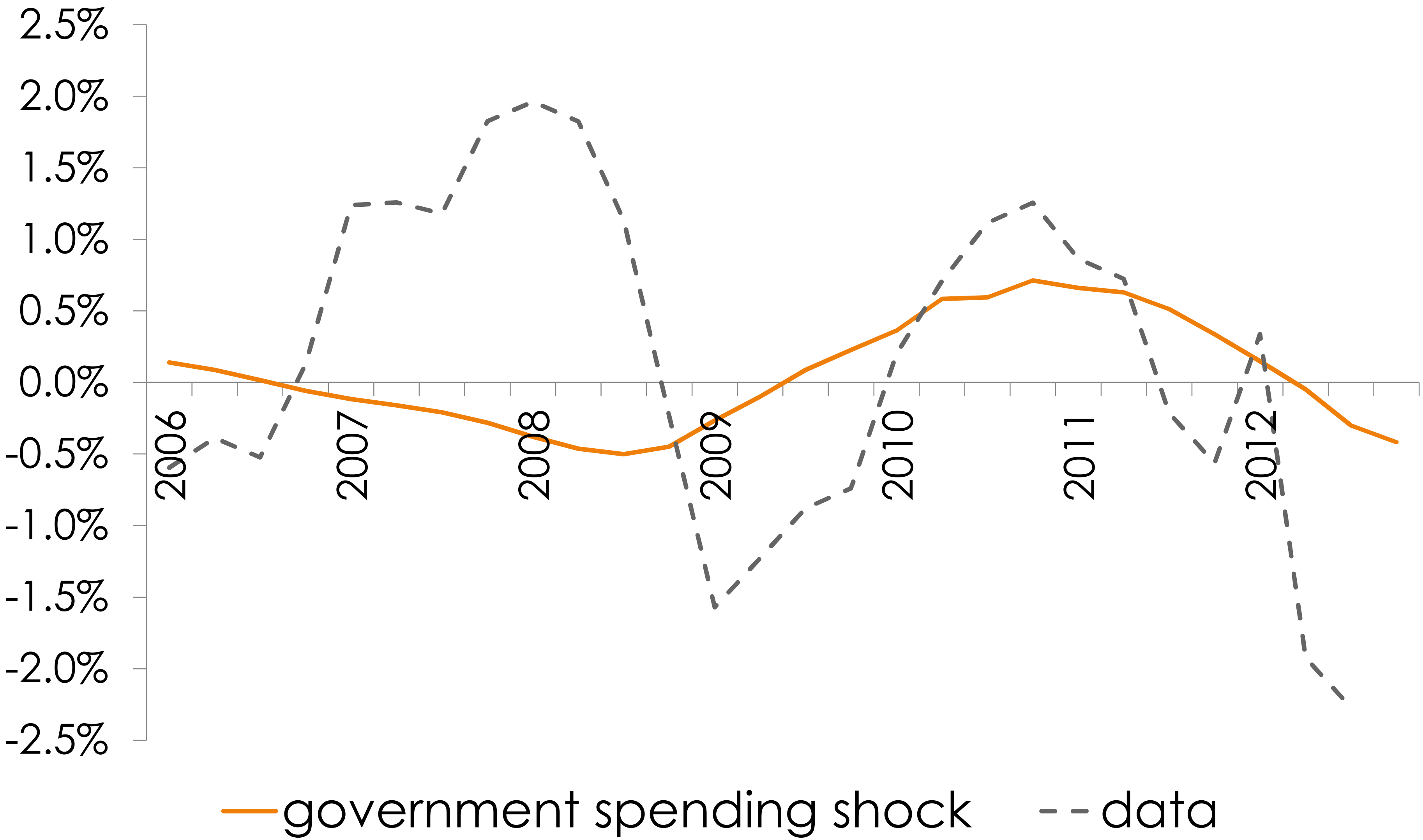
GDP in Spain – recession driven by internal factors



GDP in Italy – stronger impact of external demand contraction



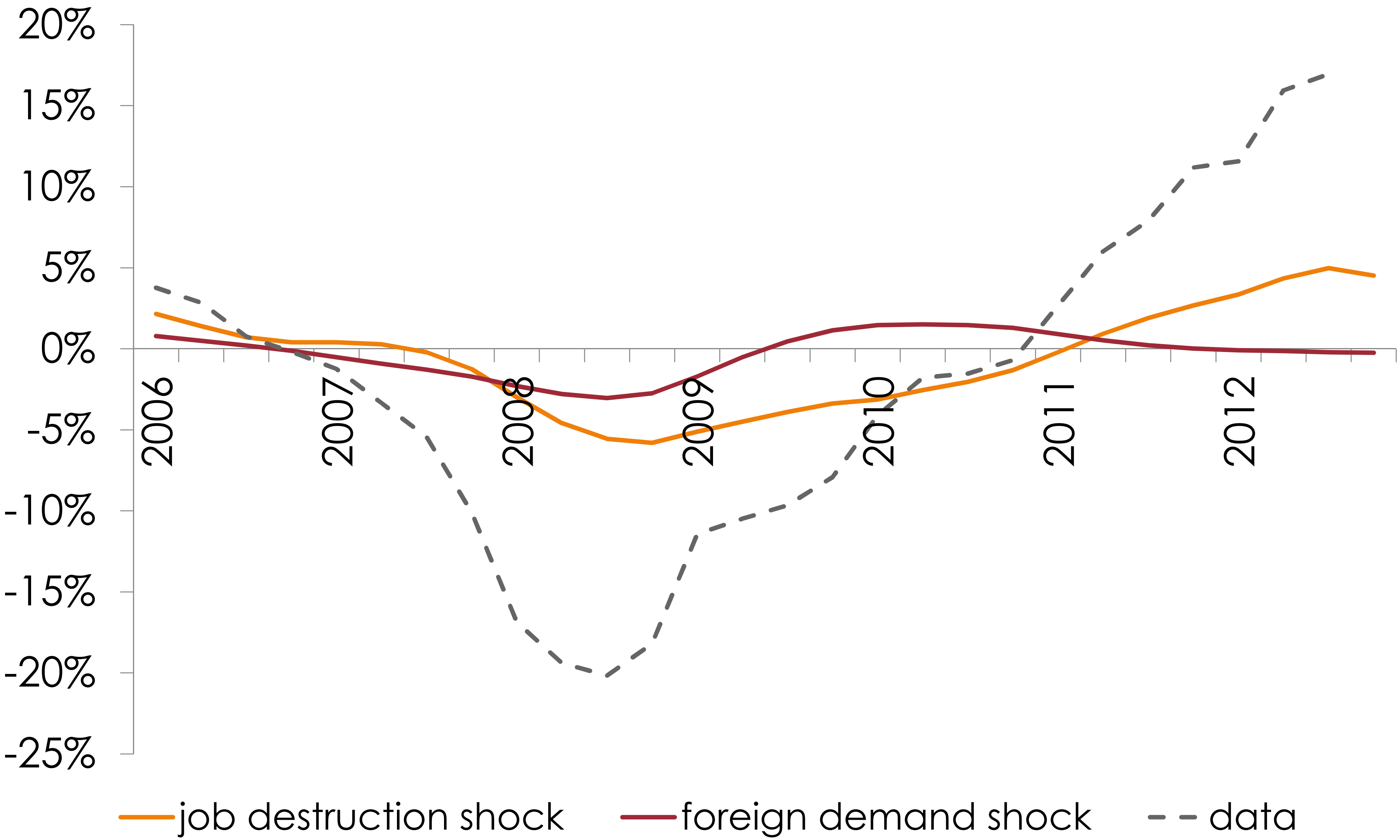
GDP in Portugal – switch in cyclicality of gov spending



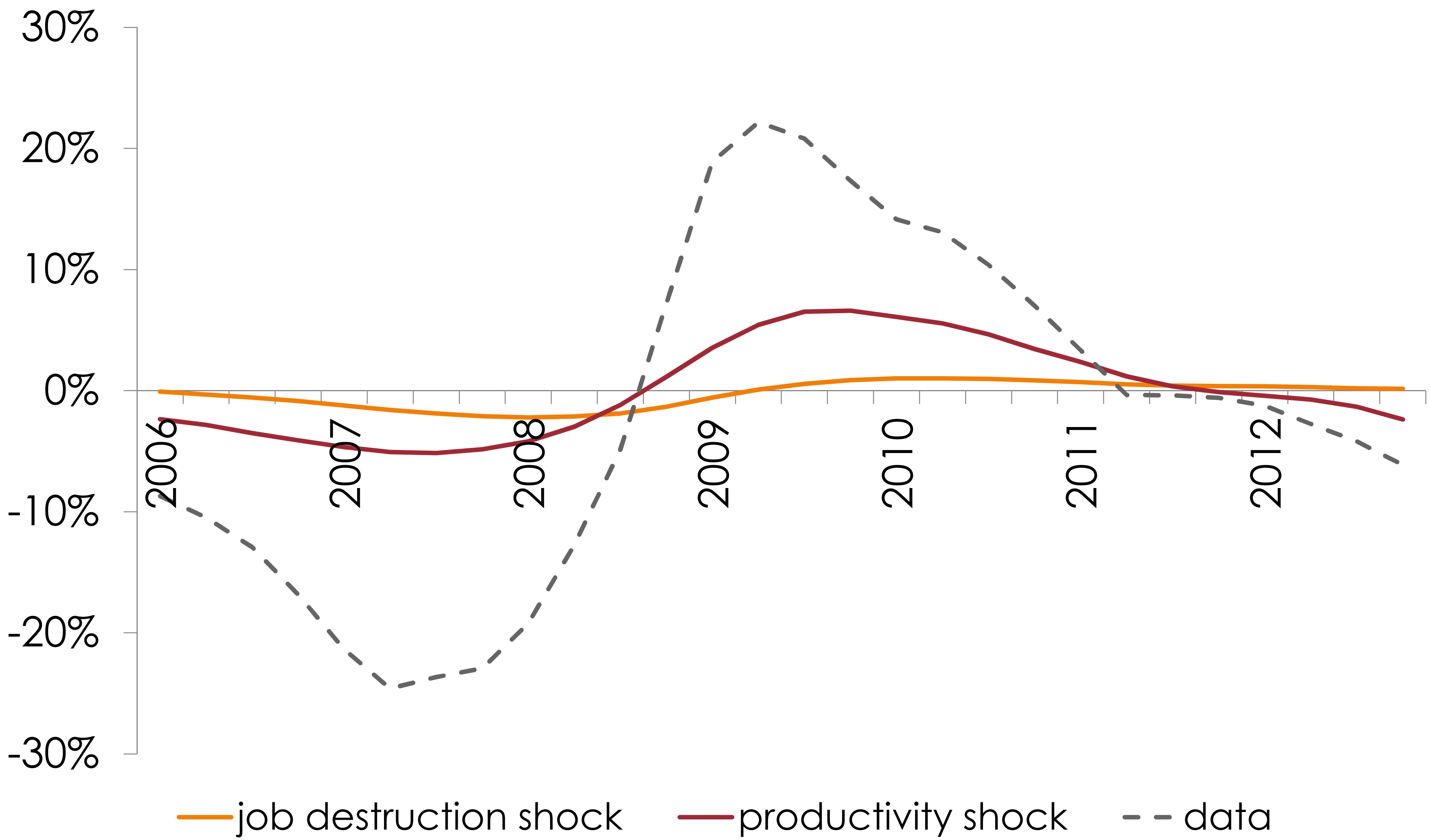
GDP - historical decomposition fit to data

Shocks:	Foreign demand	Productivity	Government spending	All
Greece	24	42	12	107
Spain	33	61	-7	113
Italy	72	11	-3	85
Portugal	53	33	4	100
Germany	52	30	-3	85

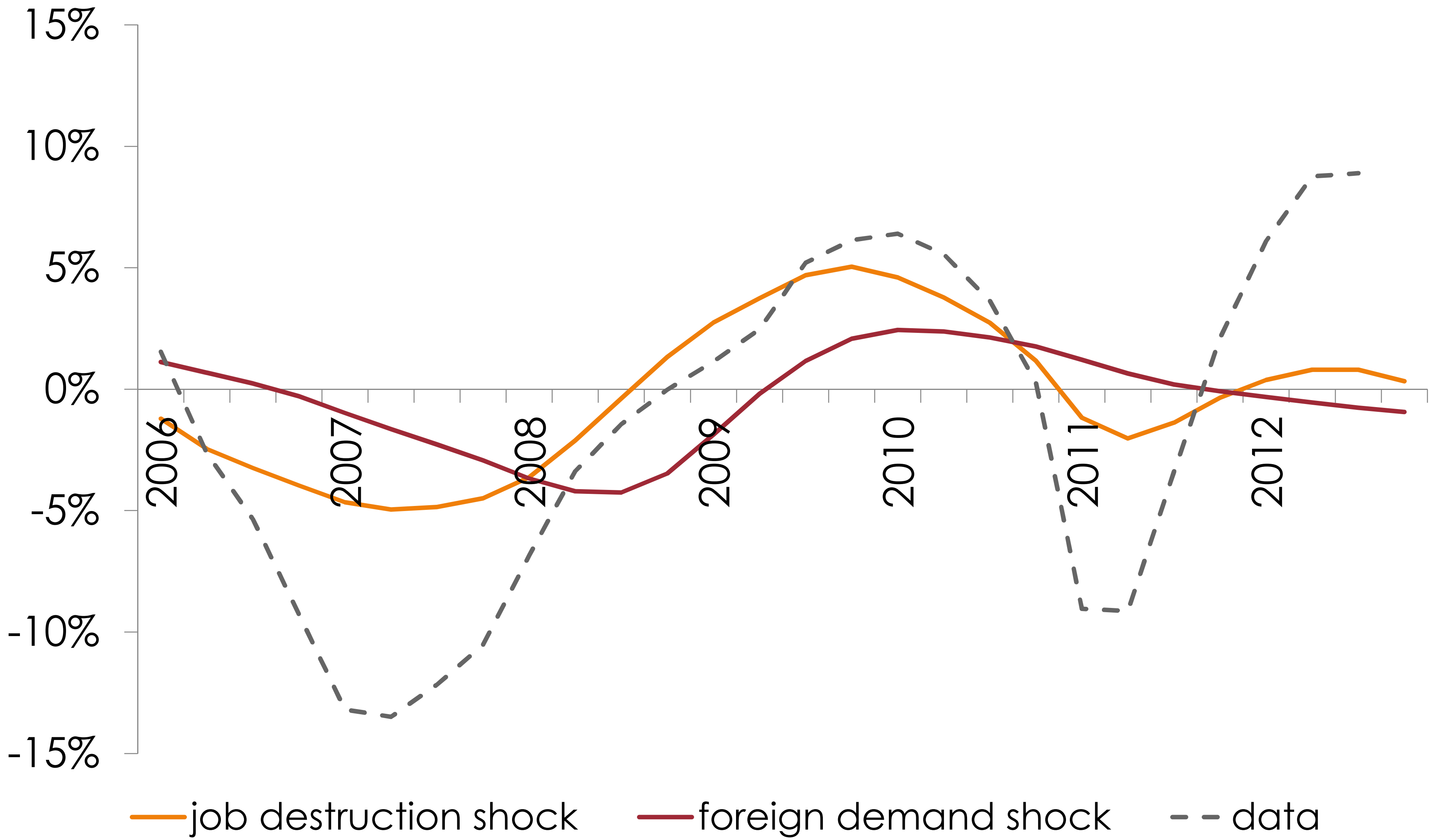
UR in Greece – low job destruction helped till 2011



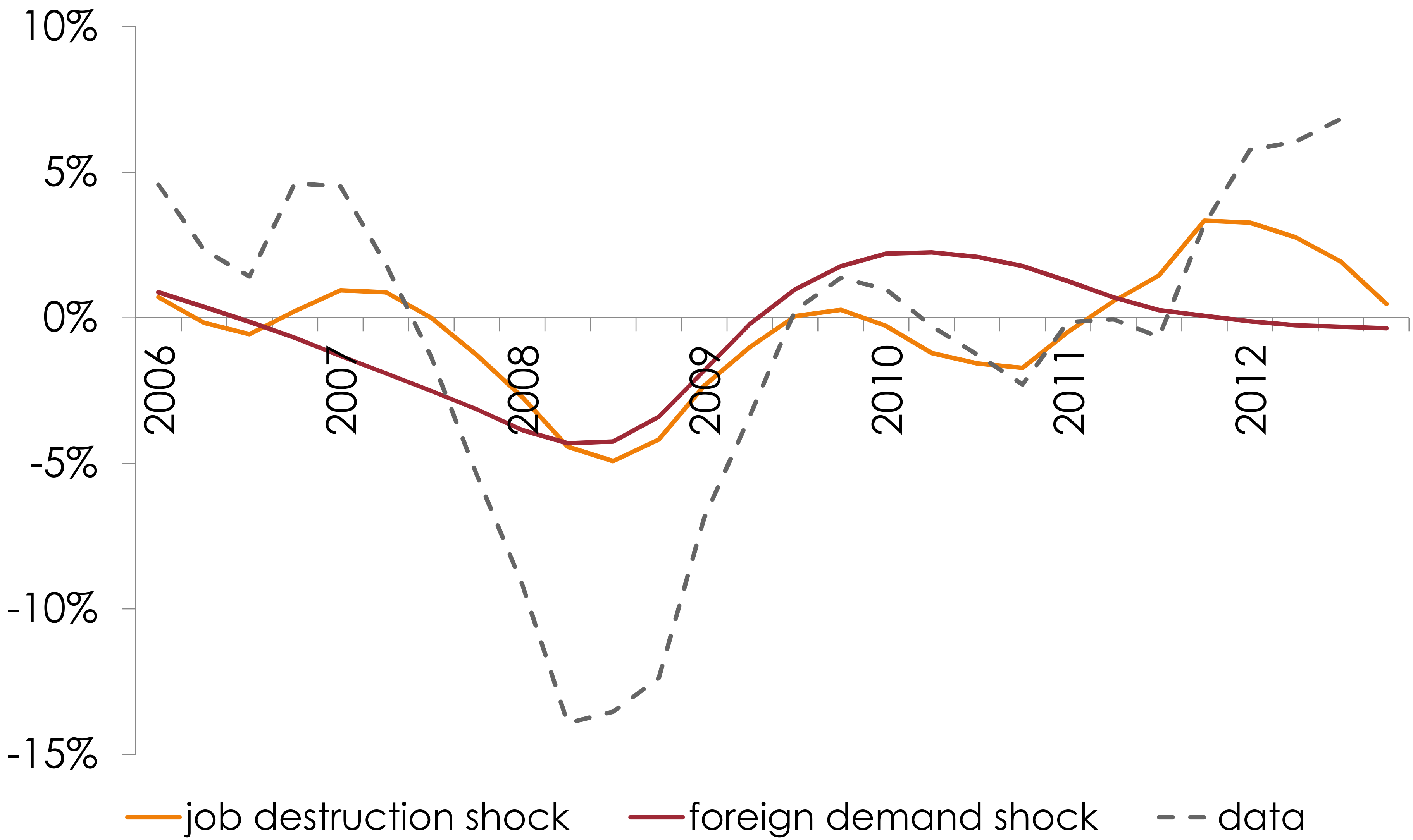
UR in Spain – driven by productivity shocks



UR in Italy – job destruction shock dominant



UR in Portugal – initially foreign demand but then job destruction



Unemployment rate - historical decomposition fit to data

	Foreign demand	Productivity	Job destruction	All
Greece	8	3	27	75
Spain	2	23	5	38
Italy	14	15	36	66
Portugal	13	4	34	68
Germany	13	13	40	93

Counterfactual simulations

For each Southern European country

Identify realisations of all shocks

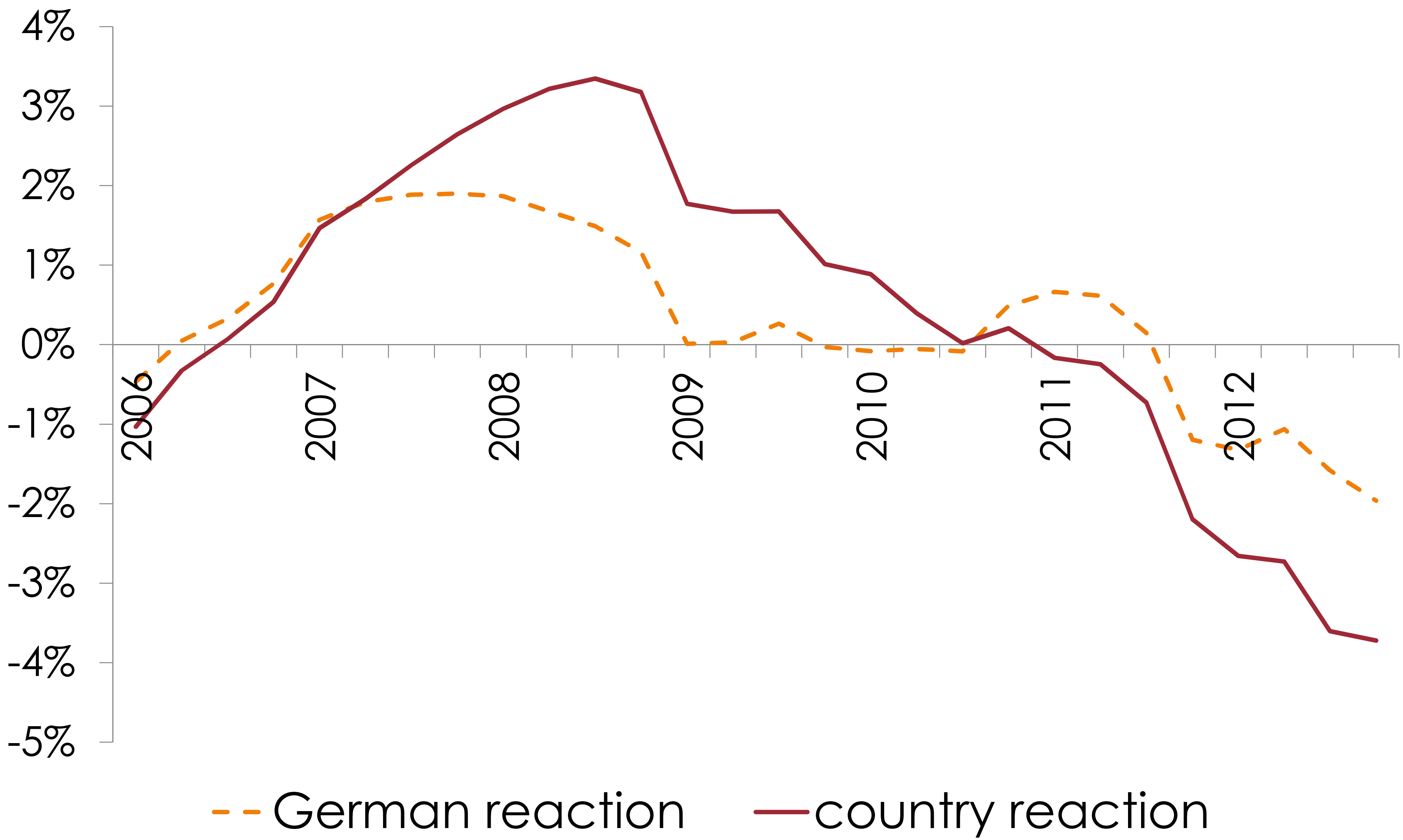
Simulate them with a German model

Compare with a country-specific simulation

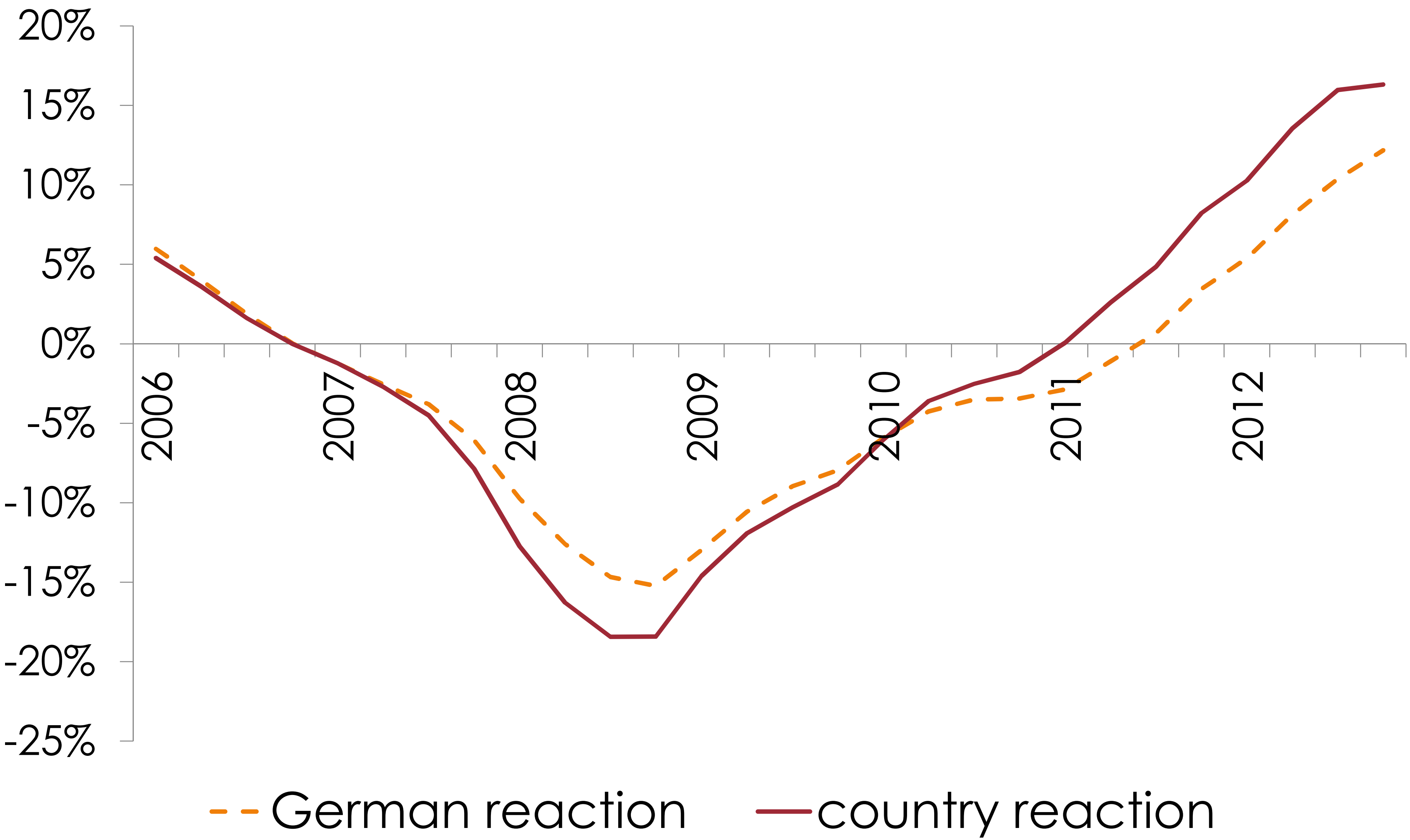
German-like vs. country-specific volatility

SD of:	Simulation	Greece	Spain	Italy	Portugal
GDP	German-like	1.0	0.9	1.5	1.5
	Country-specific	2.1	1.7	1.6	1.3
Unemployment rate	German-like	7.2	10.1	3.5	3.0
	Country-specific	8.9	10.3	5.0	4.9
Wages	German-like	2.9	5.4	0.7	1.2
	Country-specific	1.8	0.8	0.8	1.3

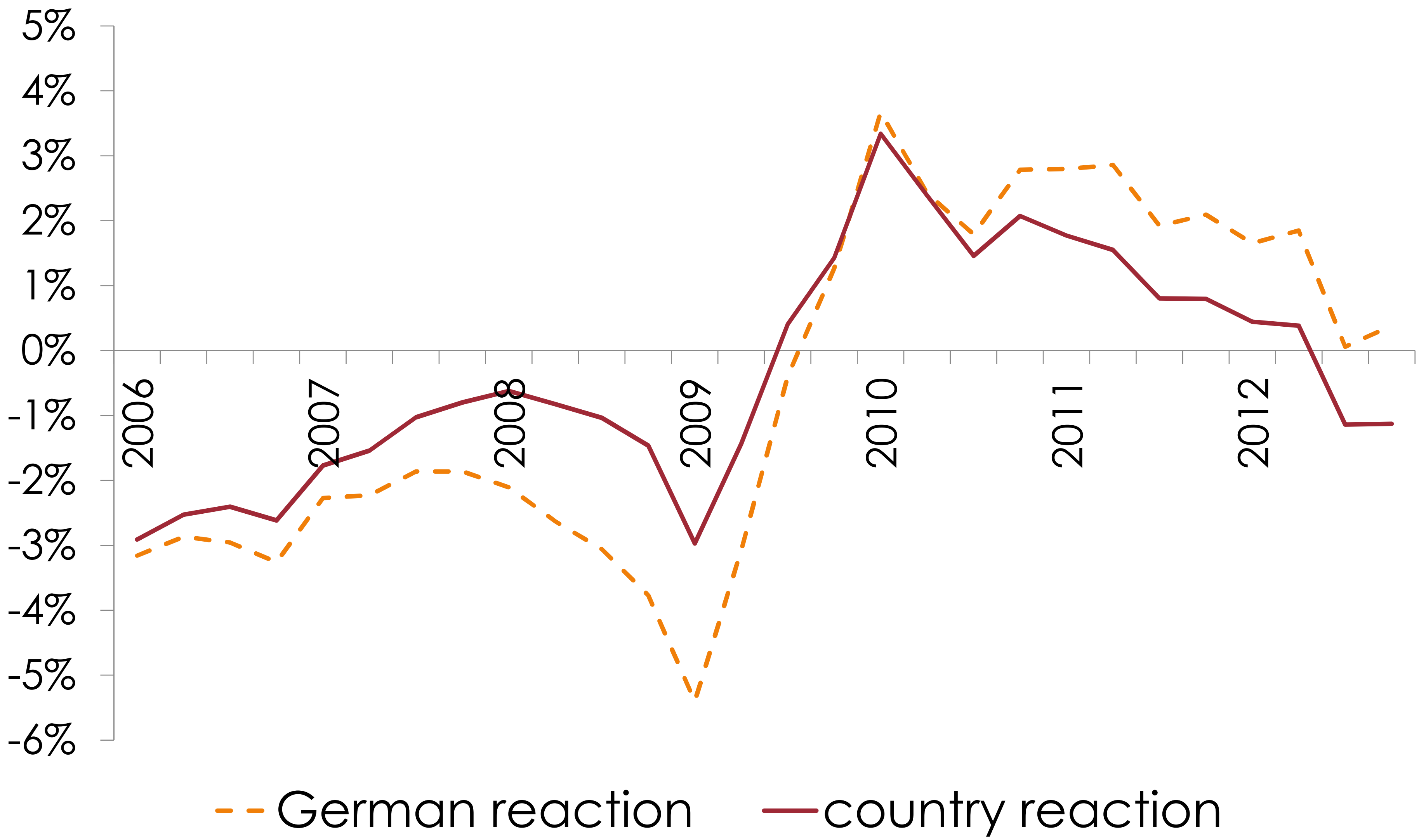
GDP in Greece – recession even with German resilience



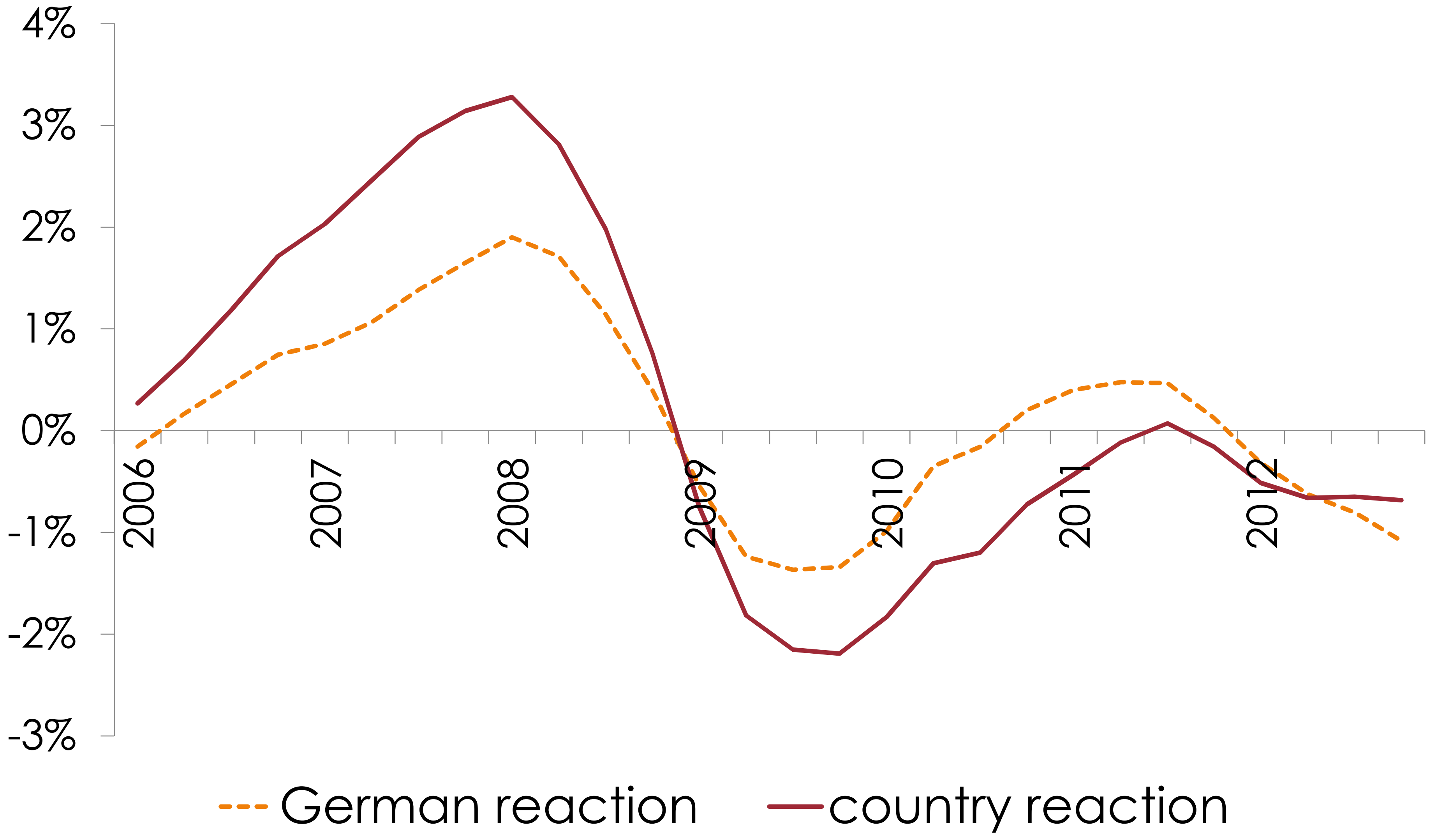
UR in Greece – but with less unemployment



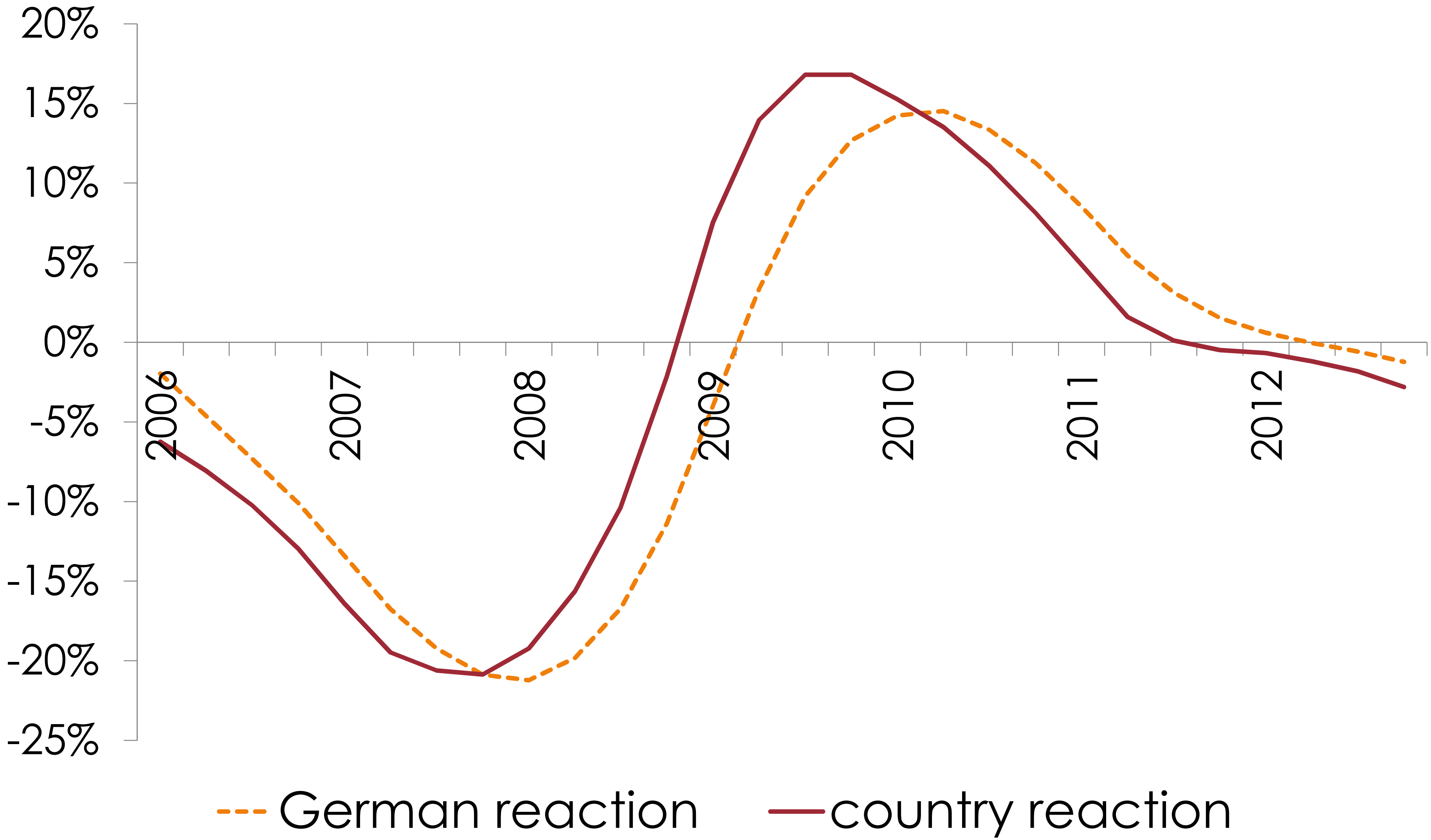
Wages in Greece – and with more wage volatility



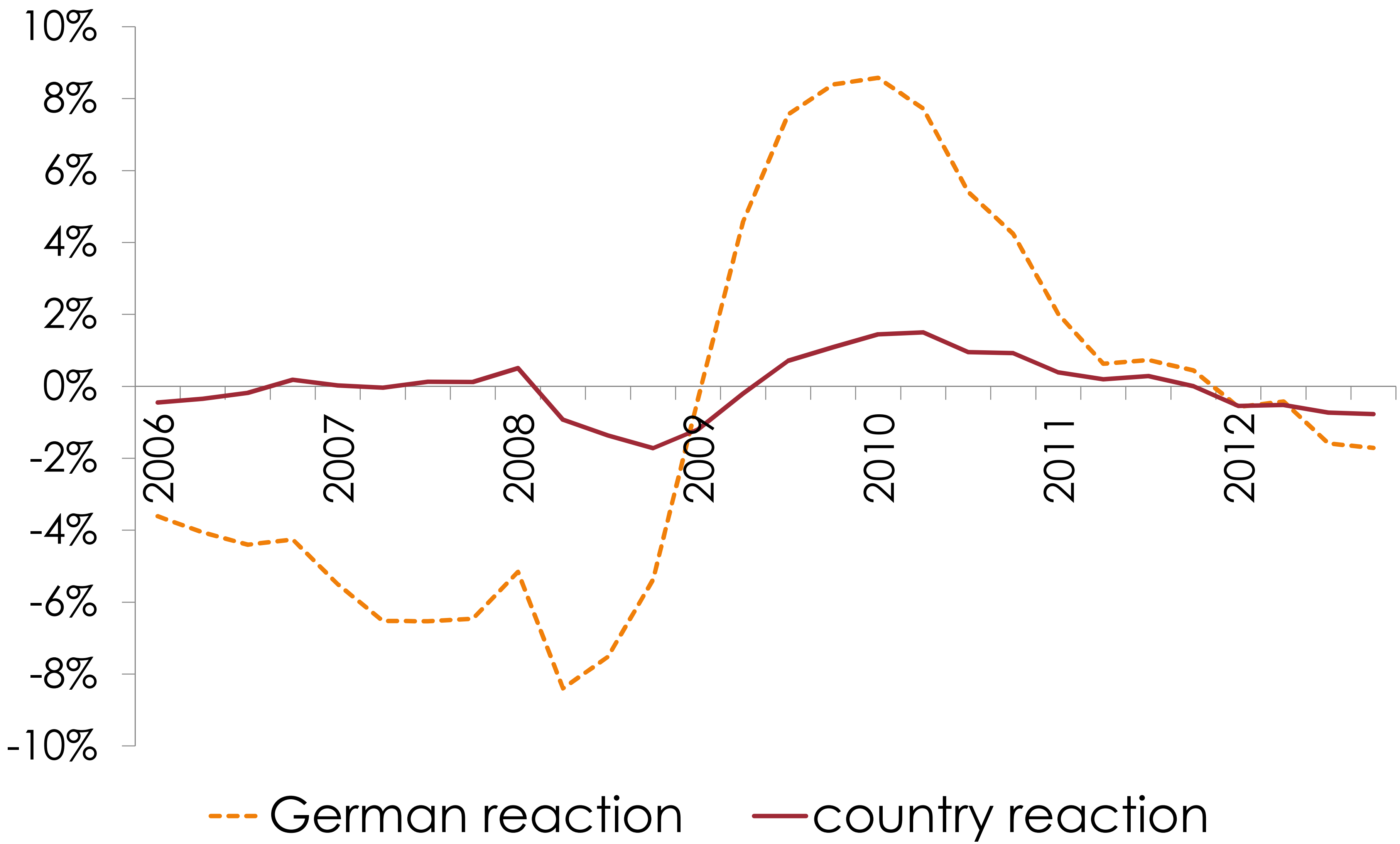
GDP in Spain – less volatile with German-like reactions



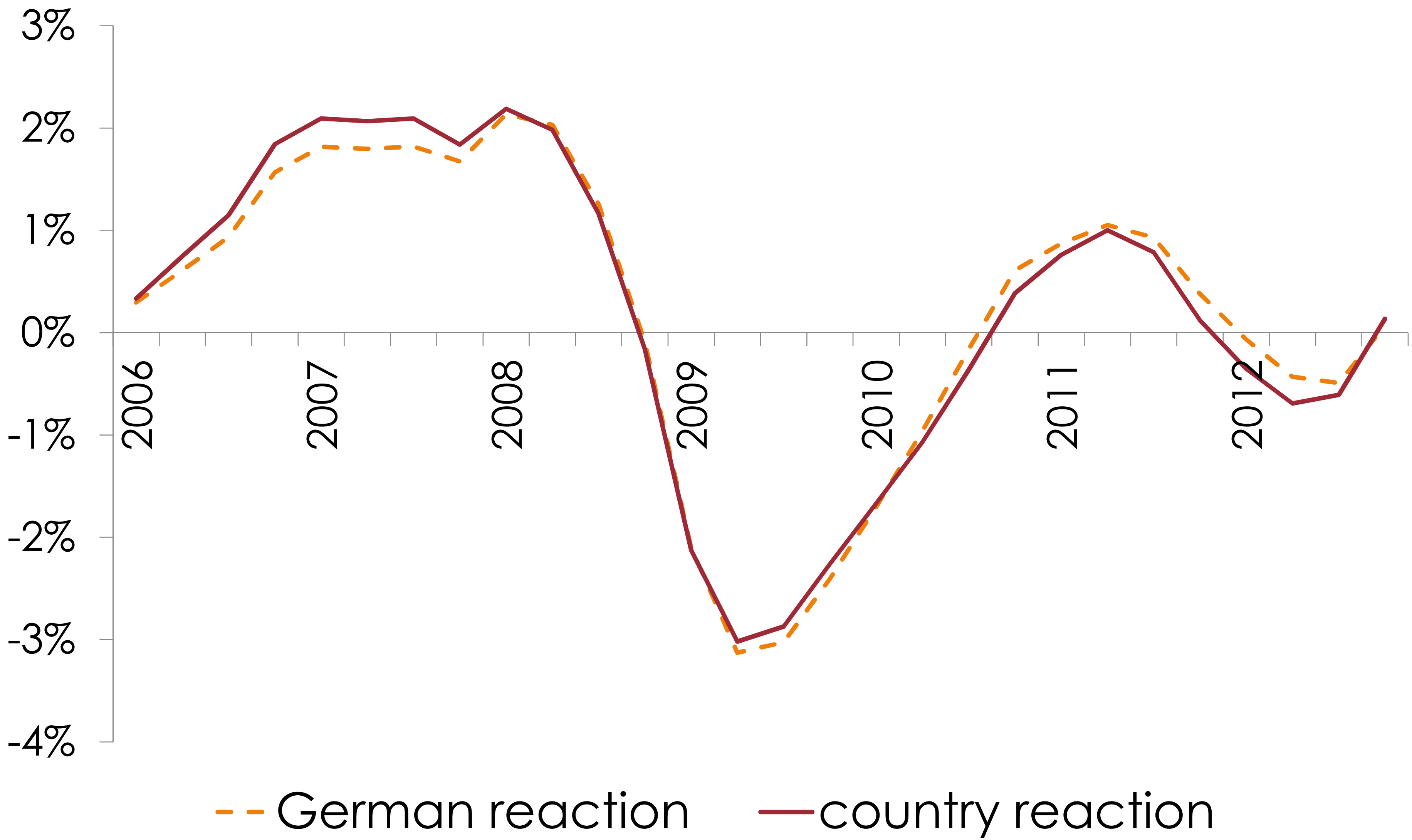
UR in Spain – also less volatile



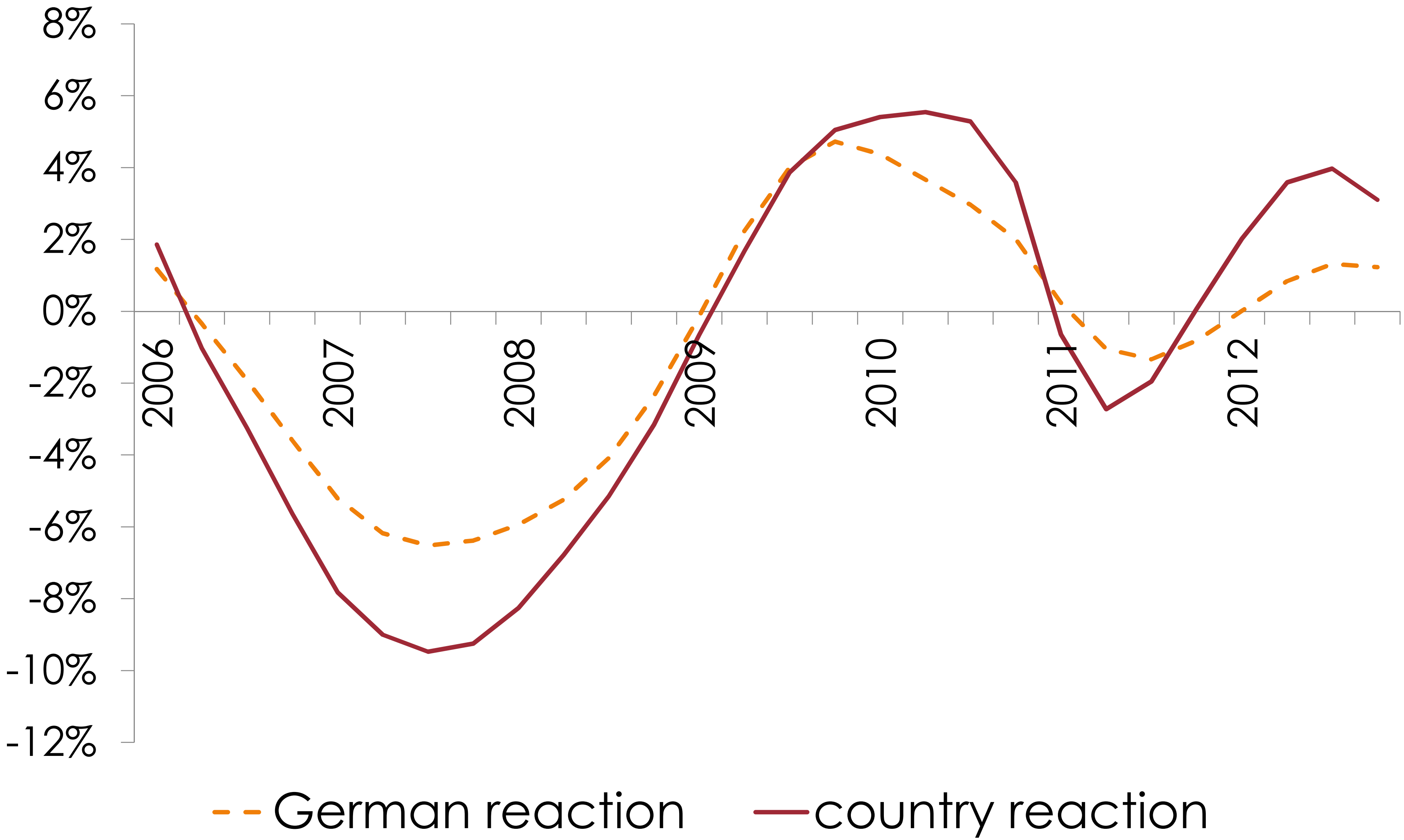
Wages in Spain – fluctuations would be larger



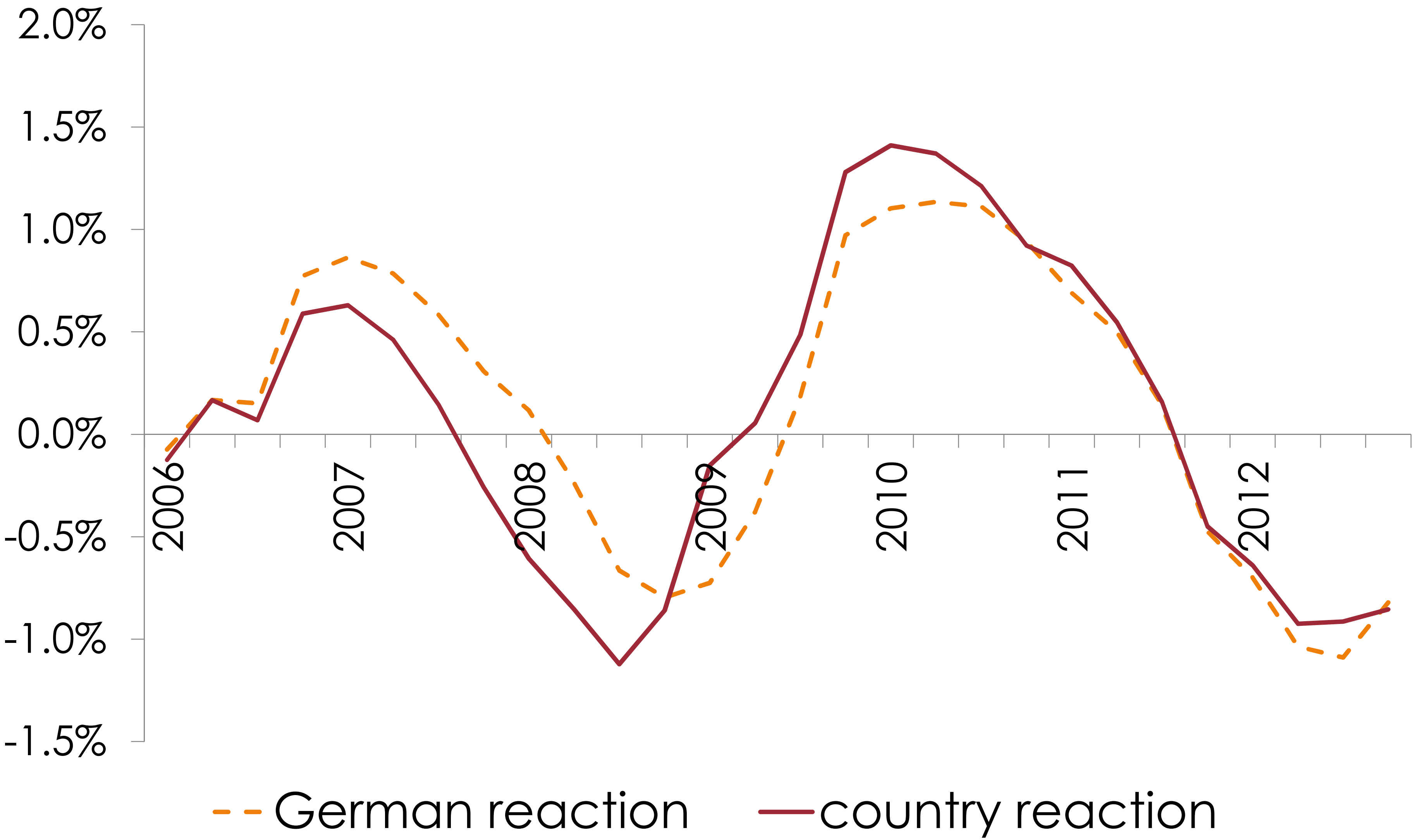
GDP in Italy – quite similar



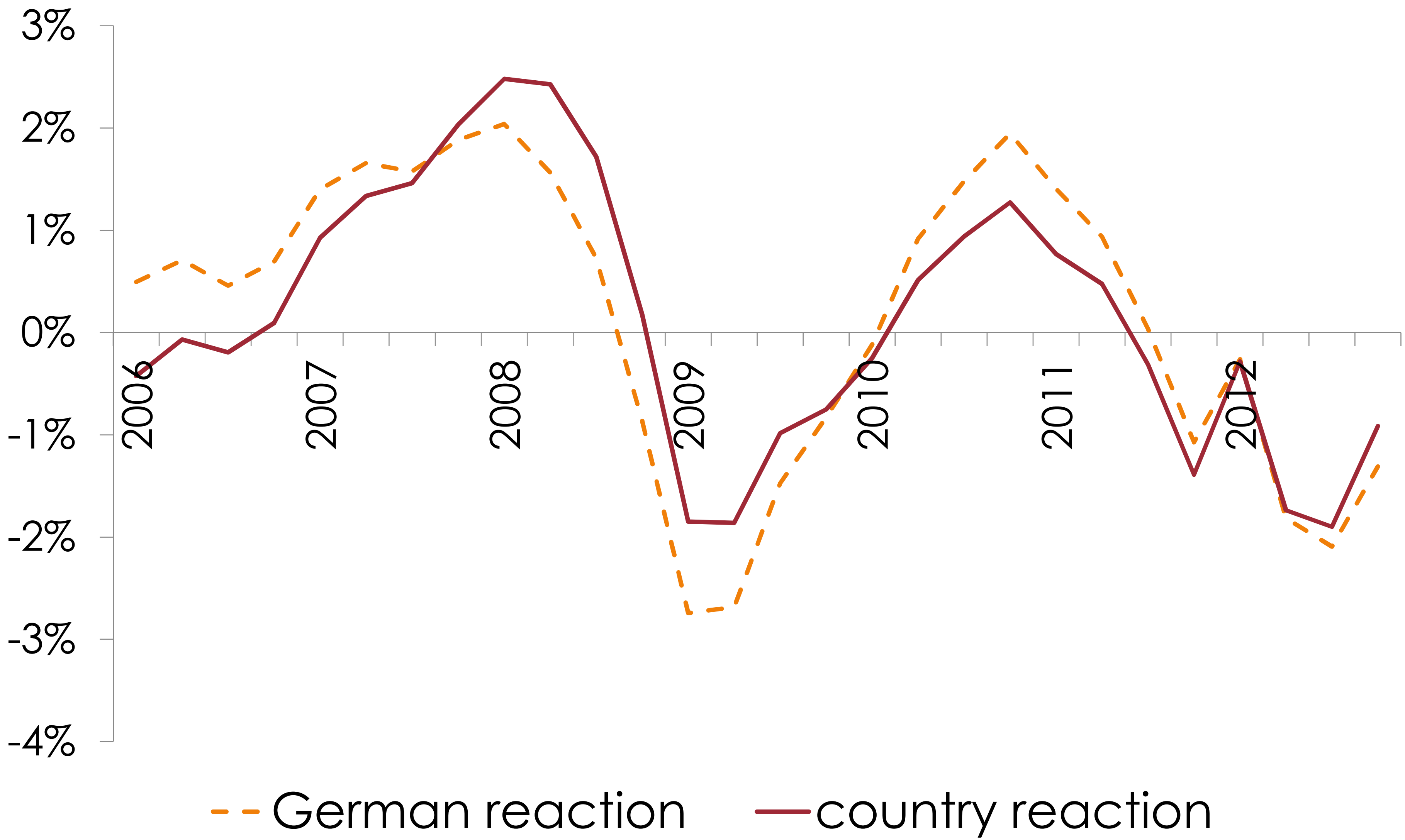
UR in Italy – would be lower mainly after 2012



Wages in Italy – smaller increase in 2009-2010

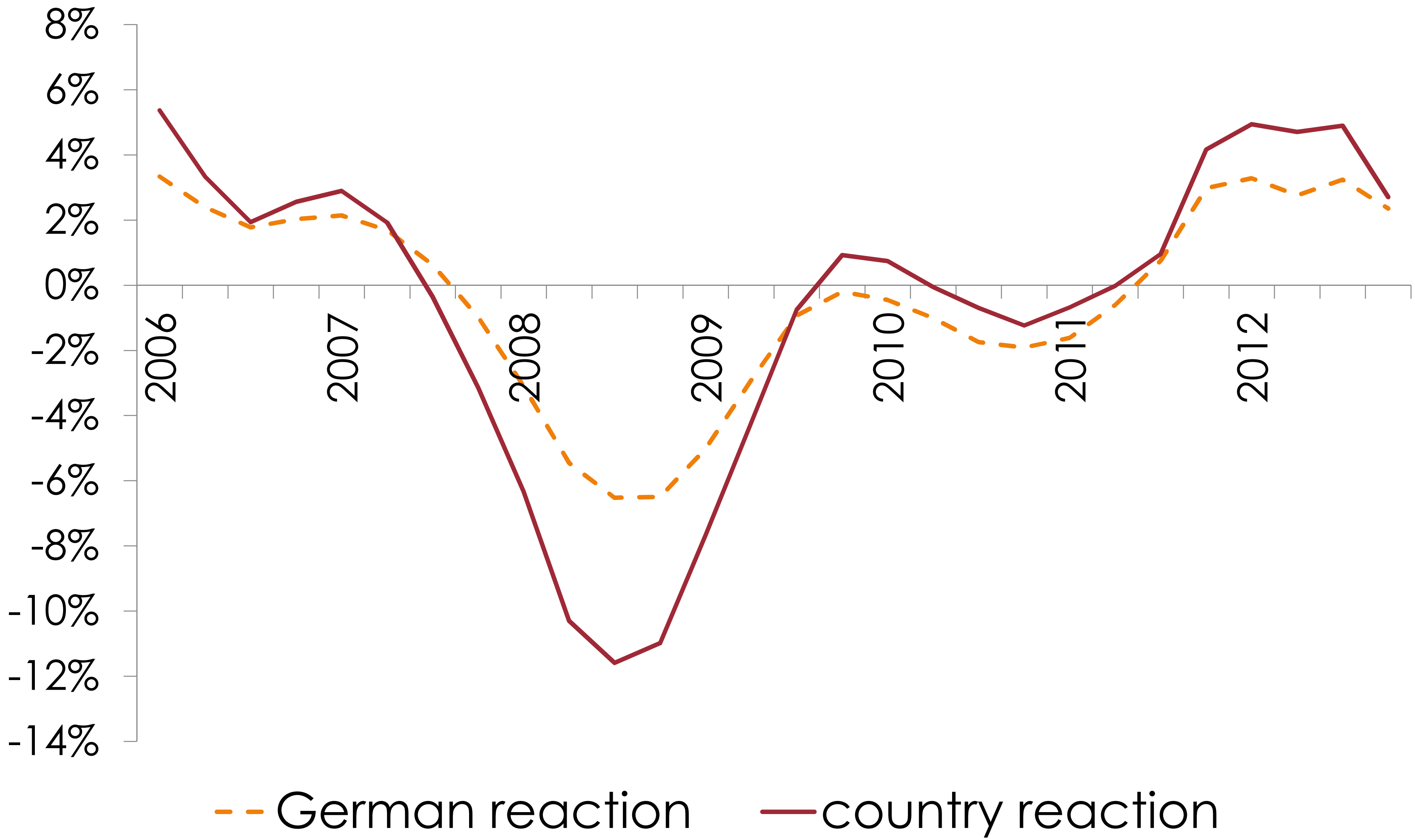


GDP in Portugal – would jump more in the Great Recession

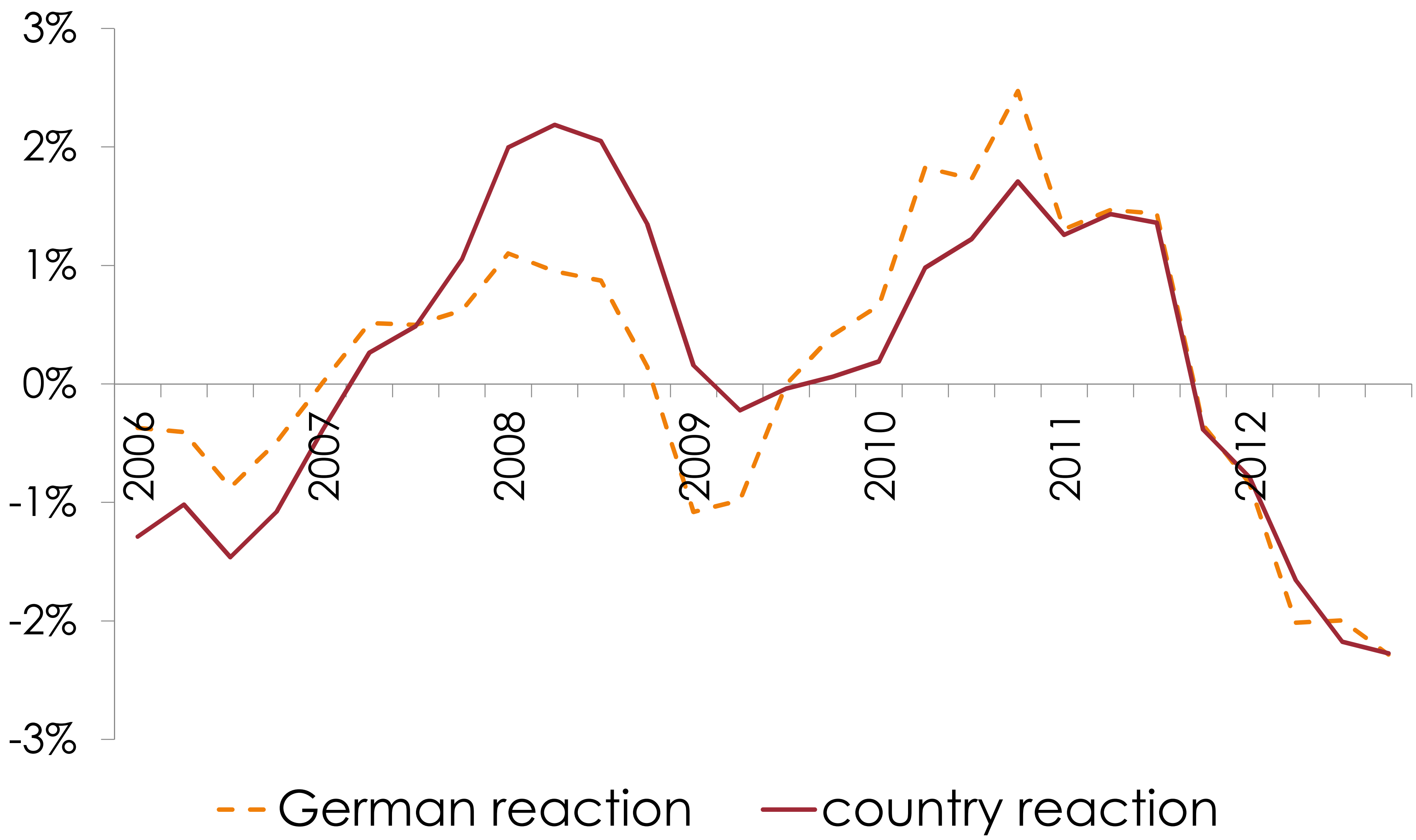


1. Introduction
2. Shock identification
3. **Counterfactual simulations**
4. Conclusions

UR in Portugal – would be lower anyway



Wages in Portugal – adjustment would be different in 2007-2010



Conclusions

Foreign or internal shocks as main determinants of GDP

Job destruction and wage bargaining shocks crucial for LM adjustments

Lower resilience of Southern European countries especially to internal shocks

Wage (price) vs. employment (quantity) adjustment trade-offs in Greece and Spain

Thank you for your attention

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