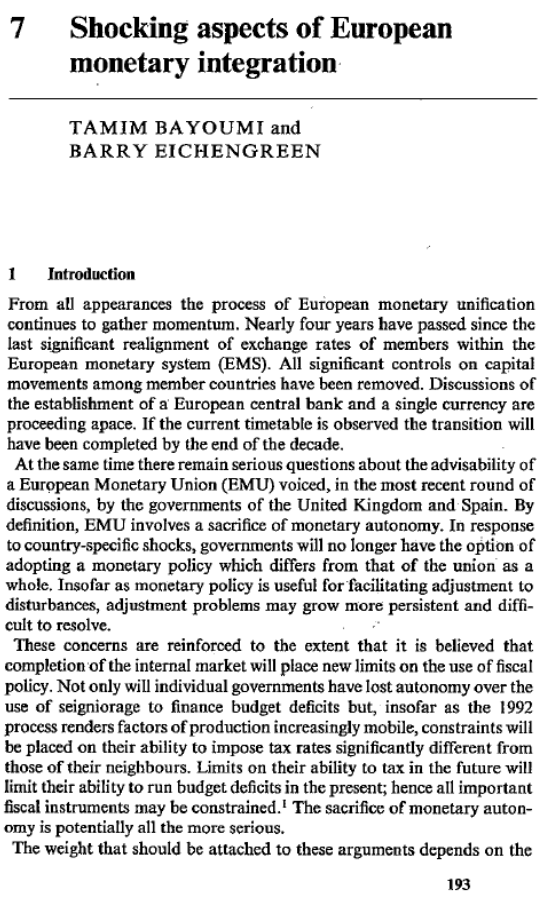
The Euro and the Theory (and Practice) of Monetary Unions

Barry Eichengreen

Frankfurt, May 2018



7 Shocking aspects of European monetary integration

TAMIM BAYOUMI and
BARRY EICHENGREEN

1 Introduction

From all appearances the process of European monetary unification continues to gather momentum. Nearly four years have passed since the last significant realignment of exchange rates of members within the European monetary system (EMS). All significant controls on capital movements among member countries have been removed. Discussions of the establishment of a European central bank and a single currency are proceeding apace. If the current timetable is observed the transition will have been completed by the end of the decade.

At the same time there remain serious questions about the advisability of a European Monetary Union (EMU) voiced, in the most recent round of discussions, by the governments of the United Kingdom and Spain. By definition, EMU involves a sacrifice of monetary autonomy. In response to country-specific shocks, governments will no longer have the option of adopting a monetary policy which differs from that of the union as a whole. Insofar as monetary policy is useful for facilitating adjustment to disturbances, adjustment problems may grow more persistent and difficult to resolve.

These concerns are reinforced to the extent that it is believed that completion of the internal market will place new limits on the use of fiscal policy. Not only will individual governments have lost autonomy over the use of seigniorage to finance budget deficits but, insofar as the 1992 process renders factors of production increasingly mobile, constraints will be placed on their ability to impose tax rates significantly different from those of their neighbours. Limits on their ability to tax in the future will limit their ability to run budget deficits in the present; hence all important fiscal instruments may be constrained.[1] The sacrifice of monetary autonomy is potentially all the more serious.

The weight that should be attached to these arguments depends on the

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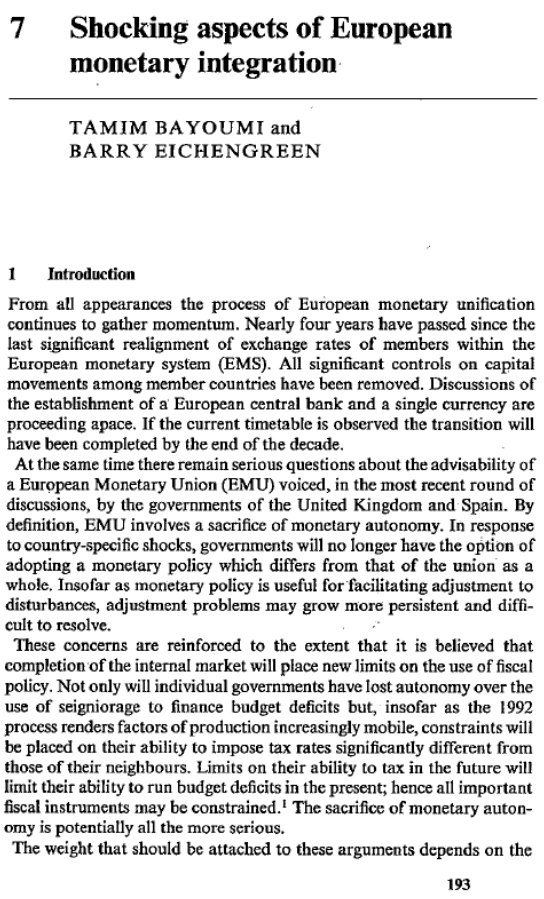
- Closing in on 2,000 citations last time I looked.
- In which we argued that proceeding with a large monetary union, including not just the Northern European core but also the "Club Med" countries, would be a mistake.



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1 Introduction

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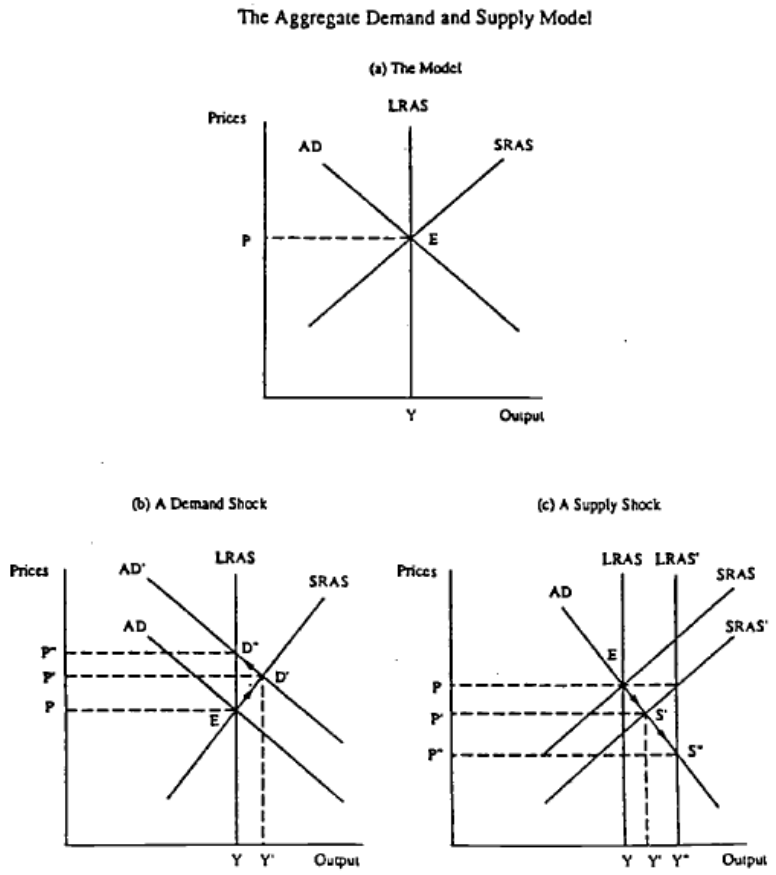
- We built on the theory of optimum currency areas.
  - As in Mundell 1961.
- This being the framework used by economists to study the suitability of different national economies for forming a monetary union.
- Emphasizing symmetry or asymmetry of macroeconomic “shocks” and speed of adjustment.

Our basic framework was the textbook aggregate supply/aggregate demand model



- In this model, aggregate demand shocks raise output temporarily but prices permanently.
- Aggregate supply shocks, in contrast, both raise output permanent and reduce prices permanently.

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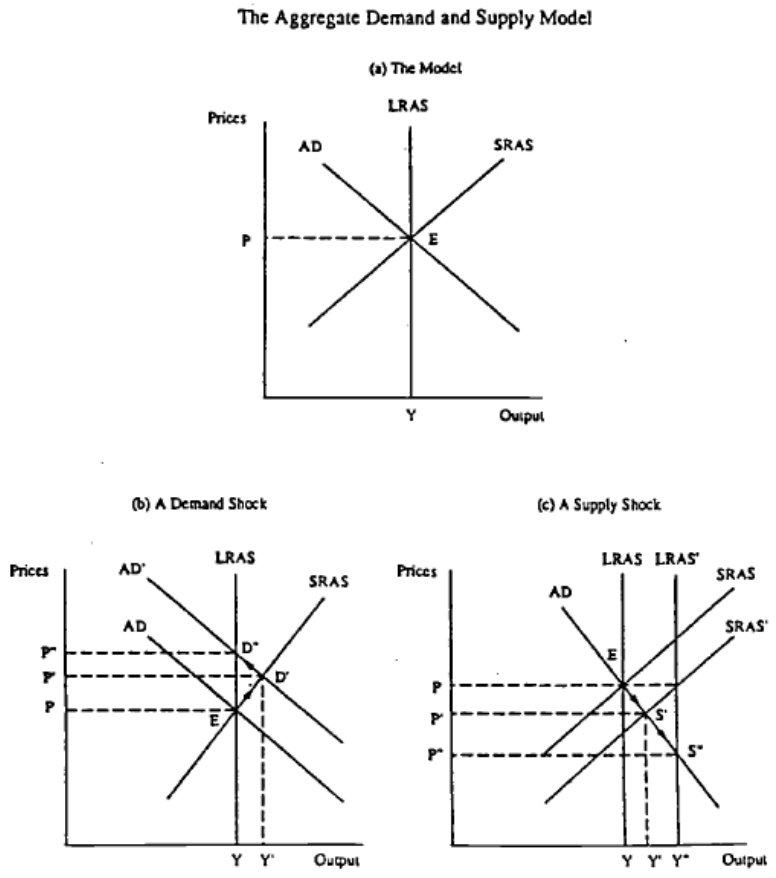

- We then estimated these two relationships using time series on both prices and output, country by country.
- We distinguished two shocks, one that was constrained to affect output only temporarily but prices permanently ("temporary" or "aggregate demand" shocks) and a second that was allowed to affect both output and prices permanently ("permanent" or "aggregate supply" shocks).

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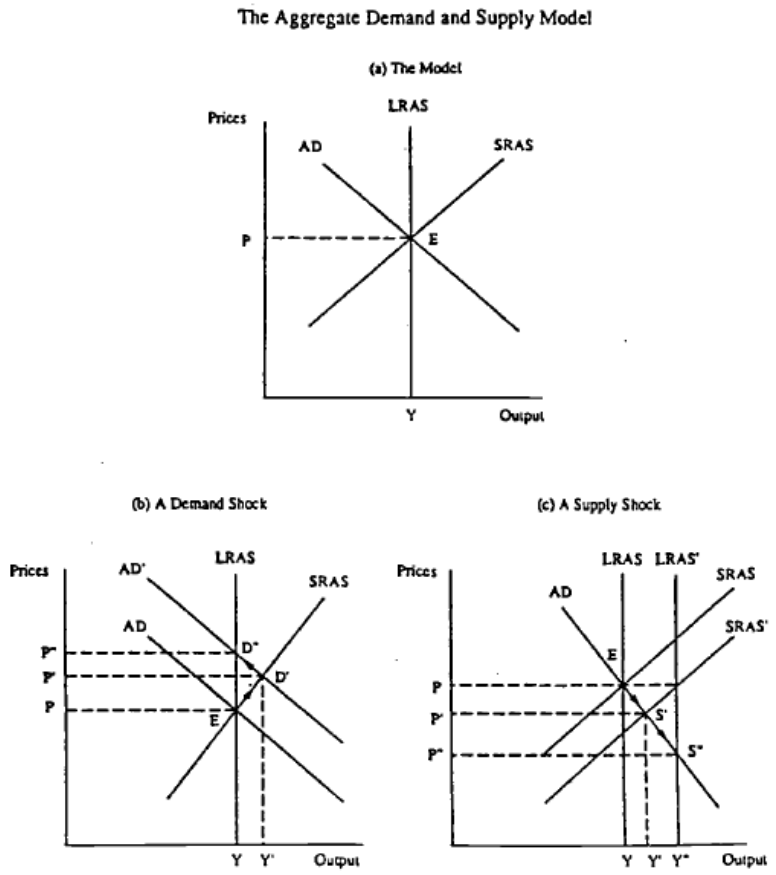

- Specifically, we estimated a bivariate vector autoregression in prices and output (more precisely, in their log differences) with 2 lags and structural restrictions imposed.

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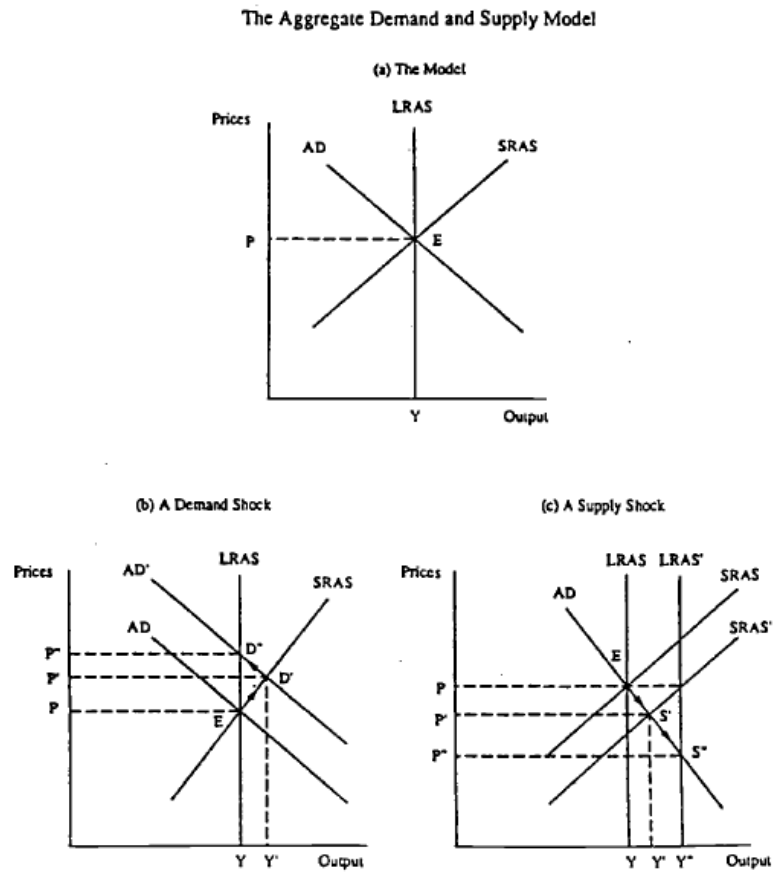
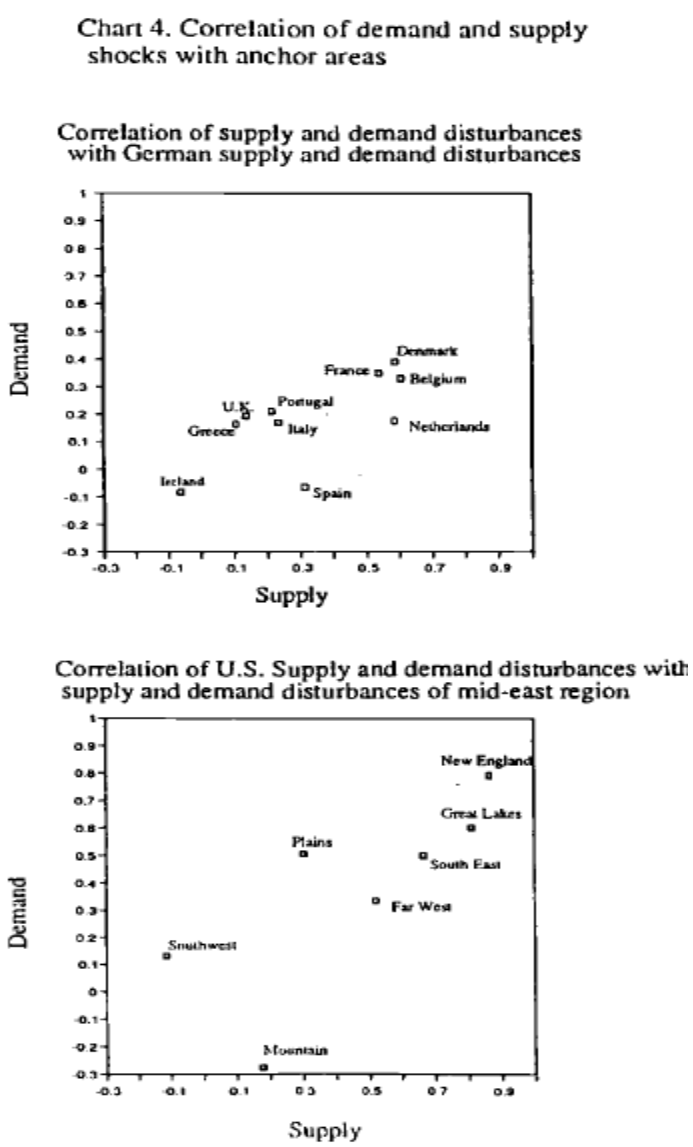


- We looked at how correlated (how "symmetric" or "asymmetric") estimated shocks were across countries.
- Throughout, the standard of comparison was the United States, which appears to satisfy the preconditions for a workable monetary union.

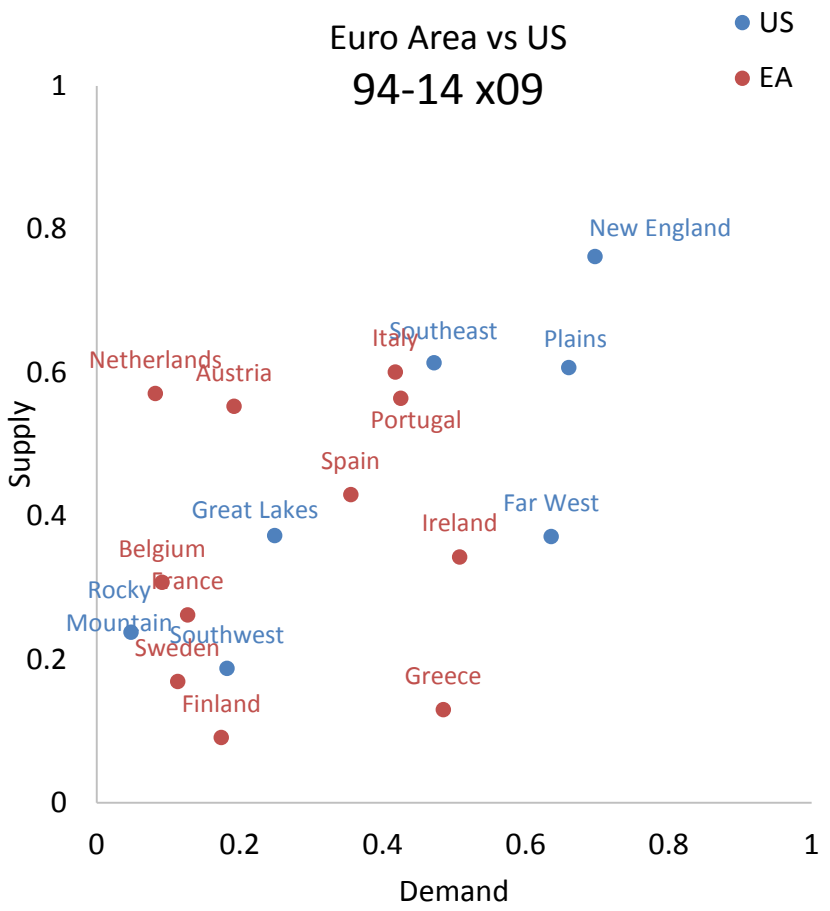
For the period 1963-1988

Chart 4. Correlation of demand and supply shocks with anchor areas



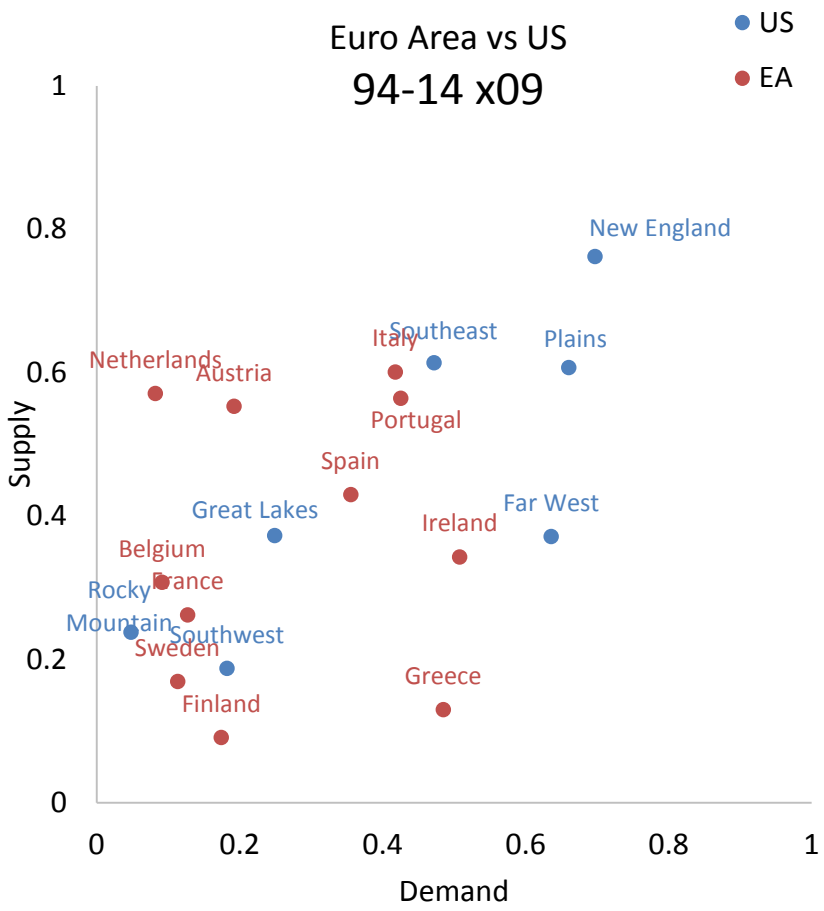
- Correlation of shocks with those in the anchor region (Germany and the Mid-Atlantic states respectively) was lower in Europe than the US.
- Moreover, there was a distinction: members of European "core" resembled the US, while "Club Med" countries did not.
- Notice who the problem countries were: Portugal, Ireland, Italy, Greece and Spain – together with the UK.

Here's the update (1994-2014)



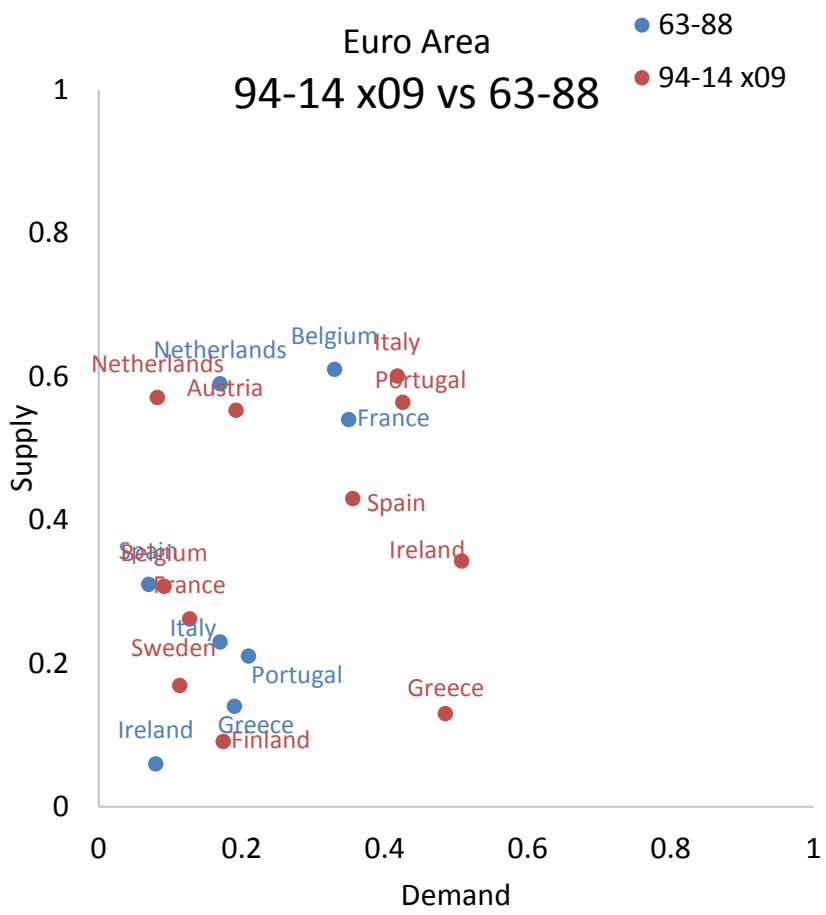
- Europe still looks like less of an optimum currency area than the United States, judged by the symmetry of shocks.
- To be a smoothly-functioning monetary union, you want to be toward the upper right.
- But red dots for Europe tend to be lower and to the left.

Here's the update (1994-2014)



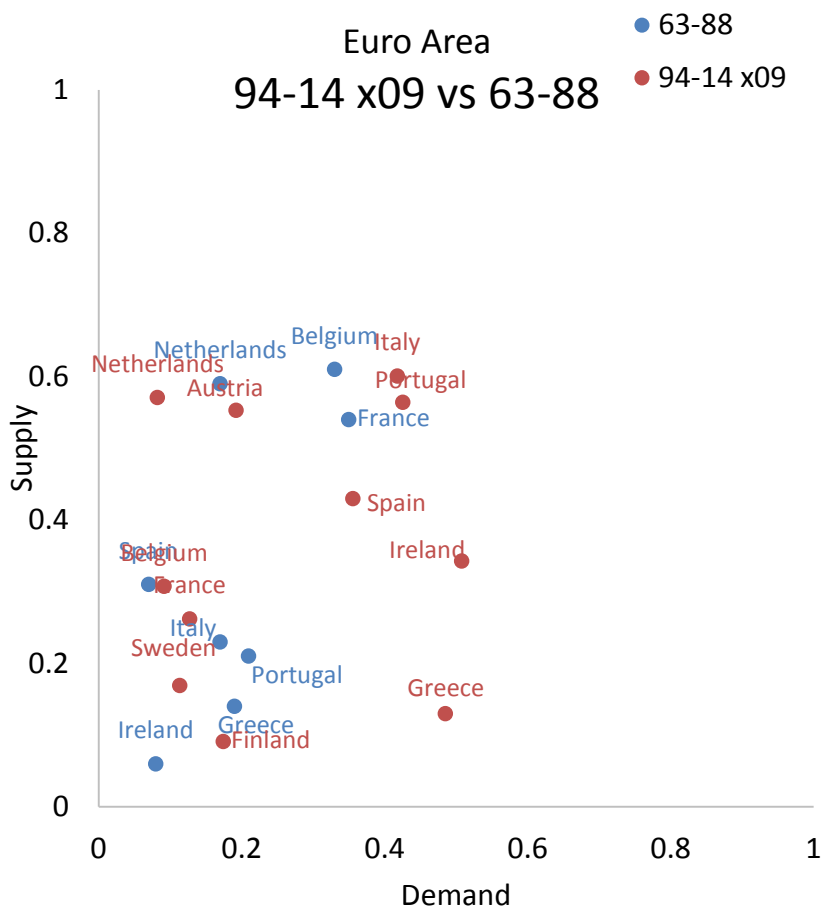
- The US data points look almost identical to before.
- The main change is that the Great Lakes have moved down and to the left (perhaps reflecting the ongoing decline of manufacturing there).

Europe looks a bit more like an optimum currency area today than in 1963-88

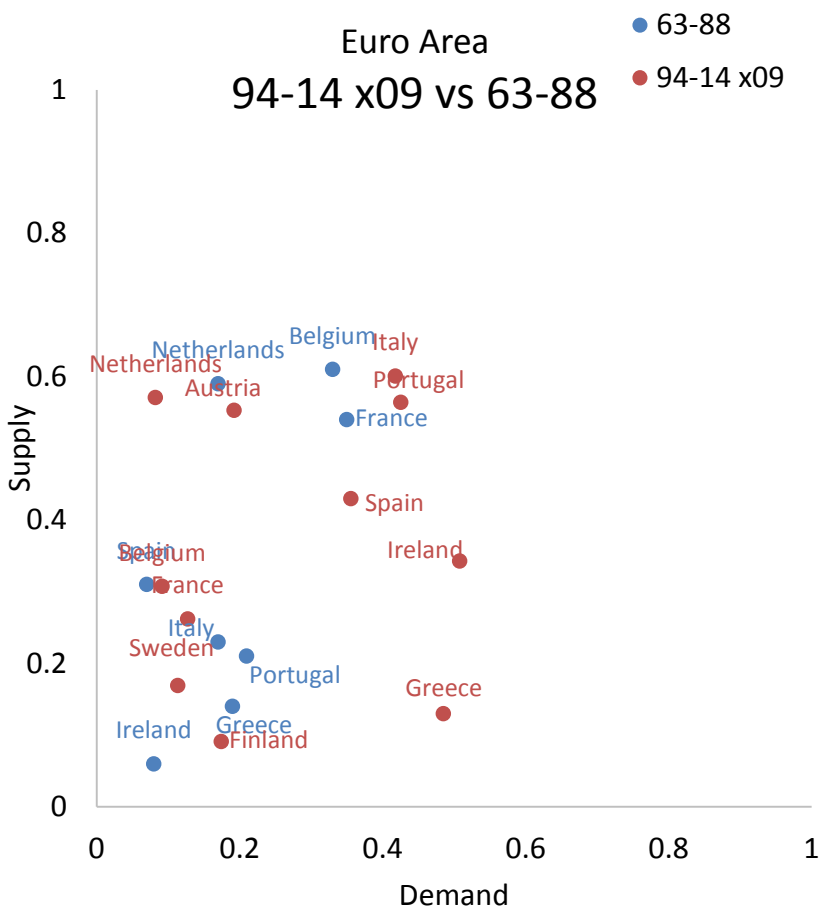


- While the symmetry of aggregate supply shocks remains the same as in the earlier period, demand shocks have grown more symmetric.
  - Red dots are further to the right than blue dots.
- This is not unexpected.
  - Monetary policy shocks are now more symmetric.

Europe looks a bit more like an optimum currency area today



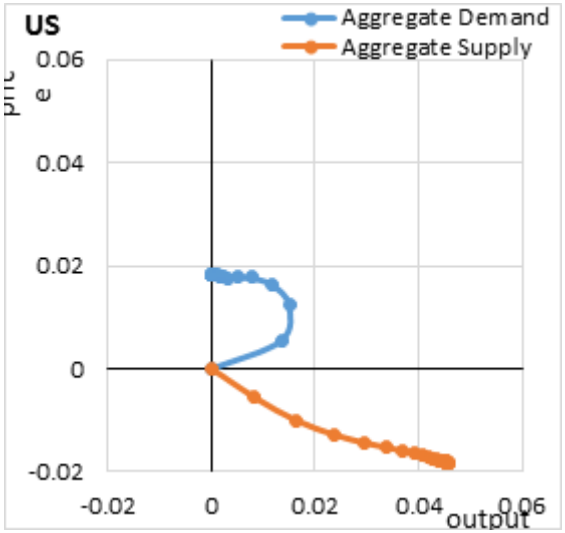
- But what is unexpected is that shocks (demand shocks especially, but supply shocks as well) have grown more symmetric with those in Germany not in Northern Europe but in the crisis countries.
- This is the big surprise from our update.



- We suspect that this reflects capital flows between Northern and Southern Europe on a scale that did not exist before the euro.
- Large capital flows from Germany to the South led these economies to boom together between 2001 and 2008 in particular.
- The fact that these correlations turn out to be lower when we control in the VARs for a variety of financial variables is consistent with this interpretation.
- And there is a further twist…

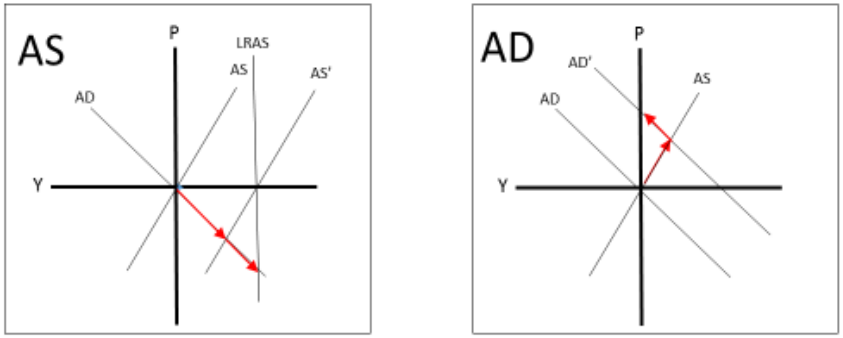
The impulse-responses for the US conform to the textbook model

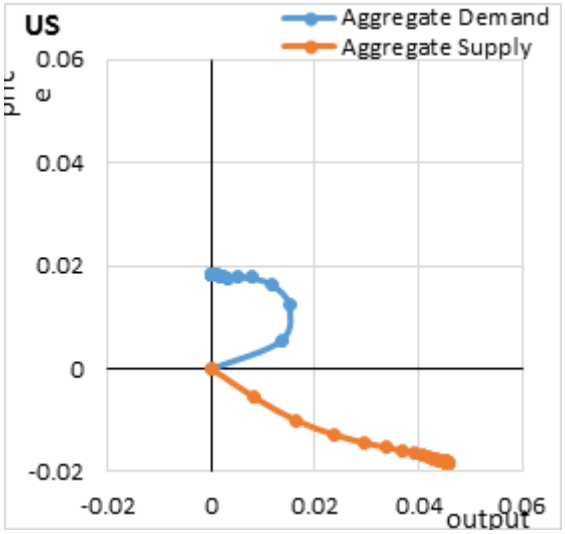
- When we update from 1972-88 to 1994-2014, the U.S. impulse-responses are “well behaved” – they look the same as before.
- Demand shocks (in blue) raise output temporarily, prices permanently.
- Supply shocks (in red) raise output while reducing prices.



They look like this, in other words

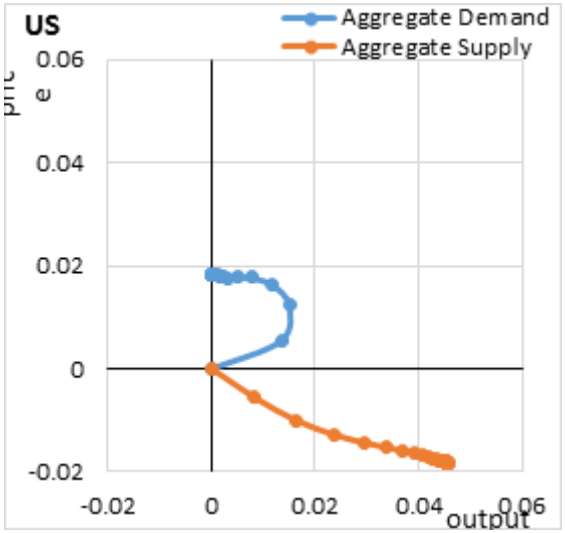
US Adjustment: AD/AS





In Europe, however, the impulse responses now look peculiar

- They were "well behaved" before the Euro (again, as at right).
- But now:
  - Positive supply shocks raise output but also raise prices.
    - Where the textbook says prices should go down.
  - Positive demand shocks appear to reduce prices
    - Where textbook economics say they should raise them.



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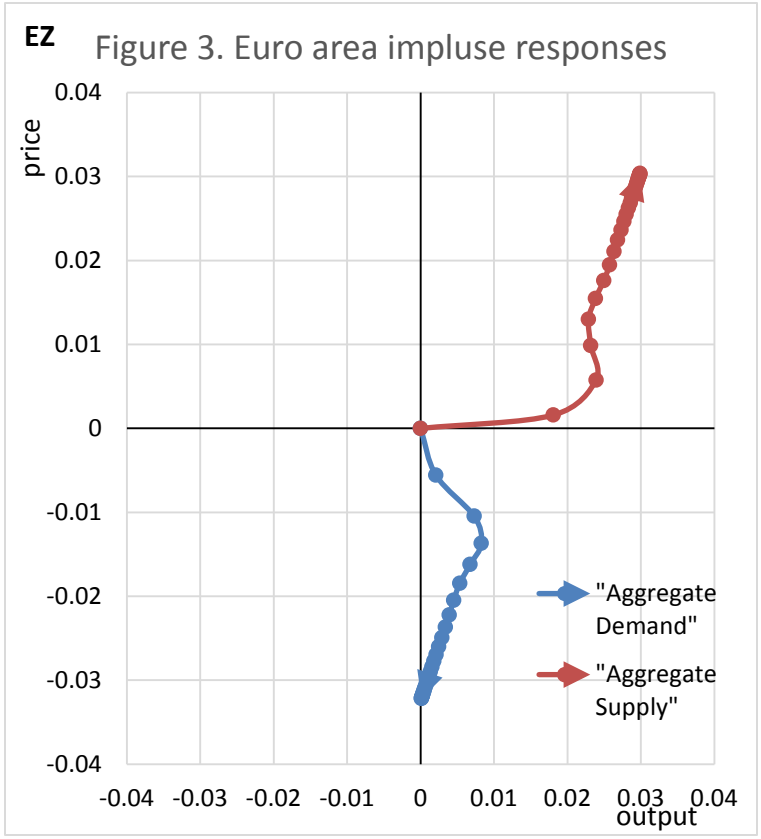
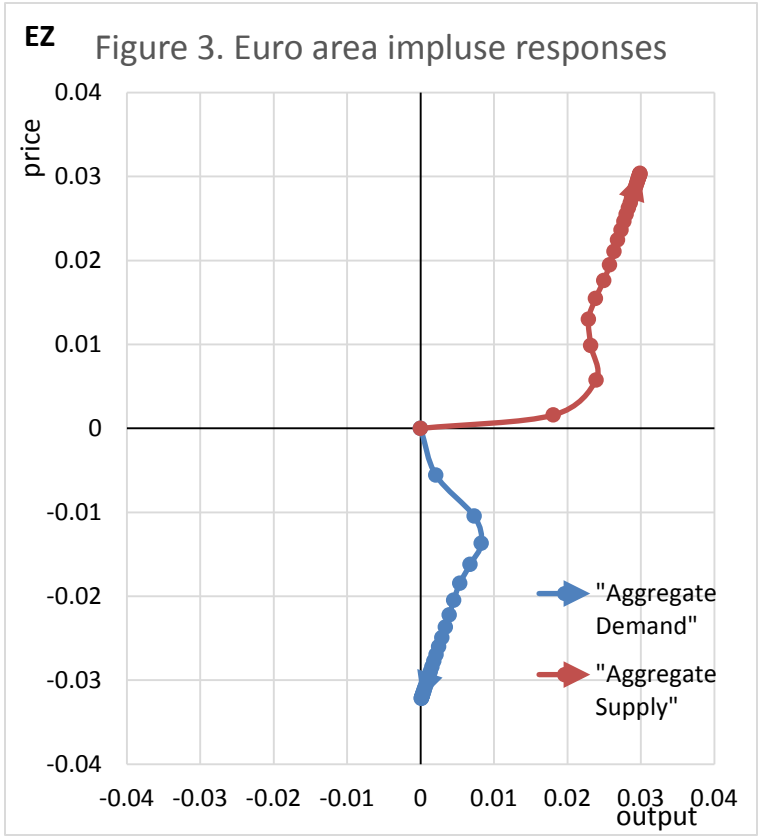
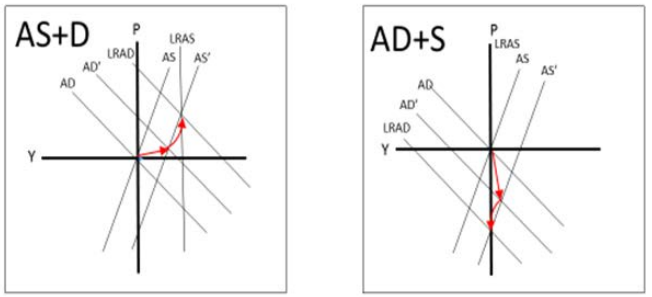


So how might we understand this?

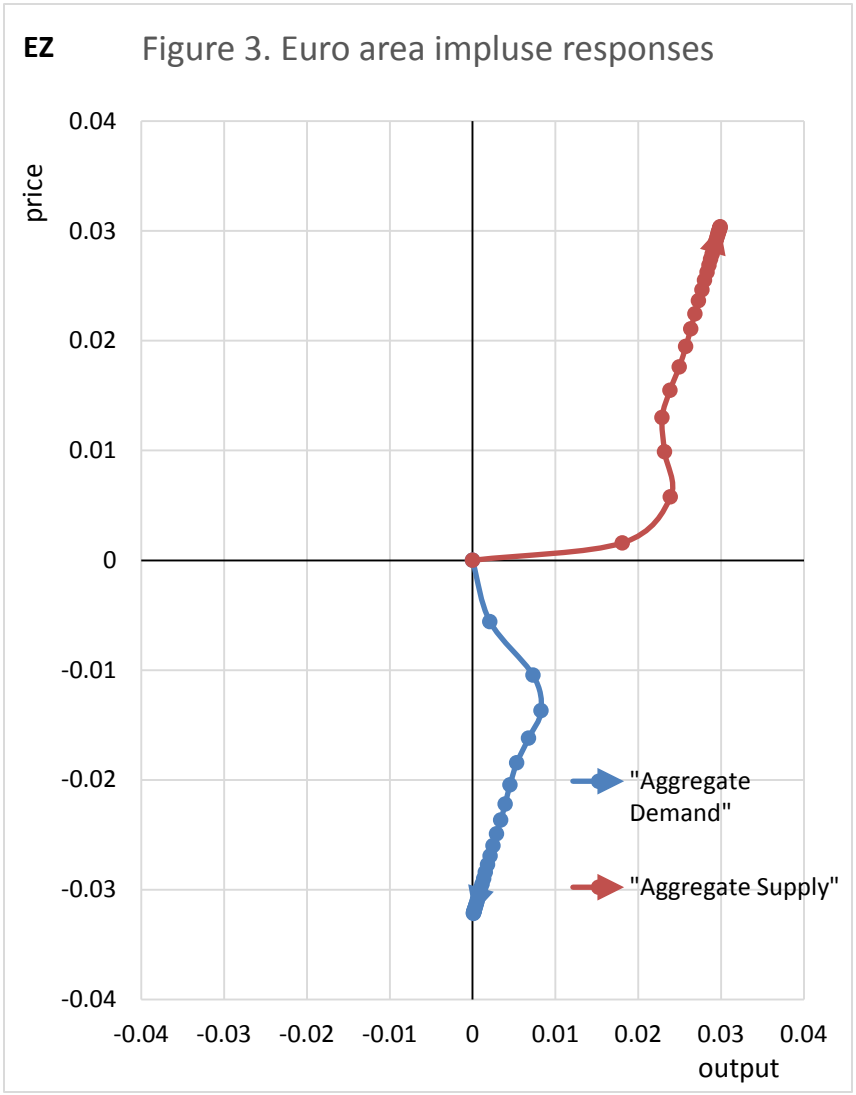


- Our hypothesis is that the positive AS shock sets off a positive AD shock.
- And the positive (negative) AD shock sets off a negative (positive) short-run AS shock.

Figure 4: Euro Area Adjustment: Financial Hysteresis



Explaining how the impulse responses look like this



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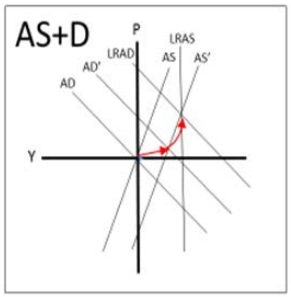
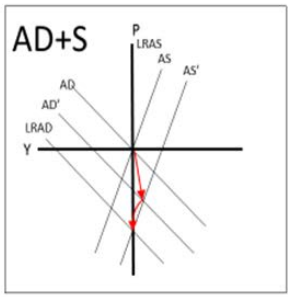




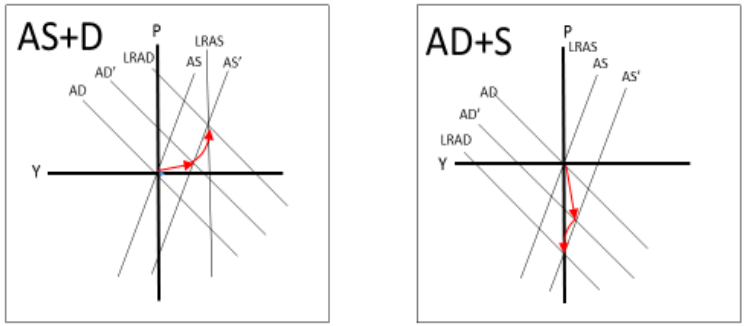
Our hypothesis: hysteresis and the financial cycle

- The financial cycle means that positive supply shocks set off a financial response also affecting demand.
- And that positive demand shock is permanent, absent another shock (hence the hysteresis).

- Definition of hysteresis: “the dependence of the state of a system on its history.”

Hysteresis and the financial cycle

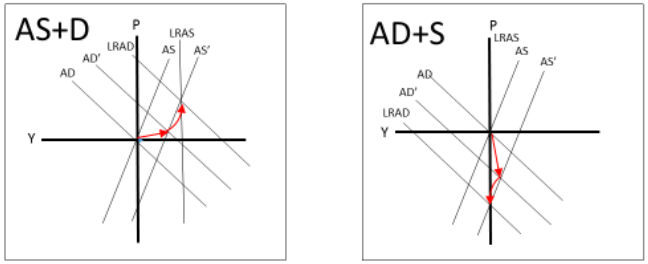
Figure 4: Euro Area Adjustment: Financial Hysteresis



- Consider the left-hand panel.
- A positive supply shock first raises output.
- Because (plausibly) a more stable policy environment due to the euro increases supply.
- This boosts productivity and profitability.
- This in turn raises asset prices and sets off a lending boom.
- The lending boom increases aggregate demand (in the case depicted, even more than supply).
- And the higher prices result.
- This is the “pre-2008 case,” when the peripheral countries experienced a positive supply shock, a lending boom, and higher output together with higher prices (a loss of competitiveness).

Hysteresis and the financial cycle

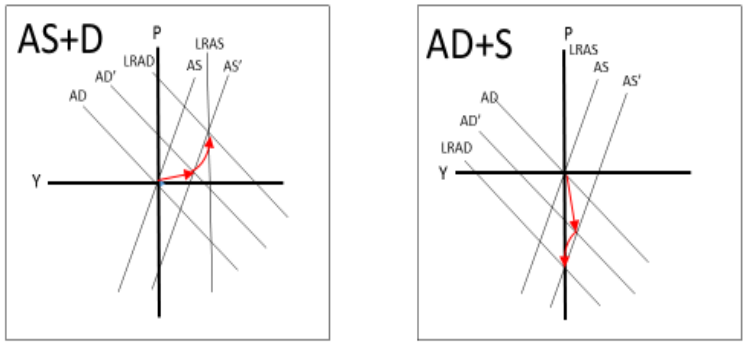
Figure 4: Euro Area Adjustment: Financial Hysteresis



- Now run the experiment in reverse ("post 2008").
- Think of a negative supply shock due to impairment of the financial system.
- Lower prices also mean an asset-price slump and therefore less lending.
- Demand falls along with supply (demand curve shifts to the left).
- The result is recession and deflation. Hysteresis implies that there is a permanent decline in output.

For completeness, consider the right-hand panel

Figure 4: Euro Area Adjustment: Financial Hysteresis



- Negative demand shock reduces output, but also induces an increase in aggregate supply.
- Intuitively, prices fall with the negative demand shock, which makes producers more competitive on international markets (higher export margins), inducing them to increase supply.
- While output remains roughly unchanged, prices fall.
- So again, the result of post-2008 events is temporary stabilization of output (2008-9) but deflation.

Conclusion 1

- It is no surprise that the Euro Area continues to experience difficulties.
- It remains further than the benchmark represented by the United States from satisfying the preconditions for an Optimum Currency Area.
  - Shocks are still asymmetric.
  - Adjustment remains difficult (no fiscal federalism, lower levels of labor mobility).

Conclusion to Part 2

- Moreover, the evidence suggests that while the € had positive efficiency effects, that positive supply shock unleashed large capital flows between Northern and Southern Europe, inflating asset prices in the South.
- This lending boom boosted demand in Southern Europe, creating the mirage of prosperity but also leading to a permanent loss of competitiveness.
- Suggesting the need to do something about this capital-flow problem and its effects.

- It’s all about financial markets, in other words (as Vitor Constancio could have told us).
- Thank you very much.