International Money and Banking: 17. Exchange Rate Regimes and the Euro Crisis

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Part I

Exchange Rate Regimes

Exchange Rates

- We have talked a lot about interest rates but have not yet focused on another important aspect of monetary policy: Exchange rates.
- Why do exchange rates matter? Consider the Euro-Pound exchange rate, so that €1 $=$ £X.
- Suppose X goes up, so the Euro is worth more. What happens to exports and imports?

  1. *Exports*: For each pound in sterling revenues that an Irish firm earns, they now get less revenue in euros unless they increase their UK price. Exporting will be less profitable and total exports will decline. Alternatively, if they decide to try to maintain profit by increasing their price in the UK, this will reduce demand, so exports will still decline.
  2. *Imports*: UK firms will get more euro revenues from exporting to Ireland at the same prices, so they may decide to do more of this. Alternatively, they may decide to lower their euro-denominated prices in Ireland and increase their market share while still getting the same sterling revenue per unit. Either way, imports will increase.

Exchange Rates and Economic Growth

- So while an increase in the value of the Euro may sound like a good thing for Ireland, it tends to reduce exports, increase imports, and thus reduce Irish GDP.
- In contrast, a depreciation of the currency boosts exports and has a positive effect on economic growth.
- For these reasons, a depreciation of the currency is often welcome in a recession and the absence of this tool when the exchange rate is fixed is often pointed to as a downside of such regimes.
- That said, exchange rate depreciation has its downsides also:
  1. *Inflation*: Depreciation tends to make imports more expensive and so add to inflation. This is one reason why central bankers tend to say they favour a strong currency. For small open economies that import a lot, the inflationary effects of depreciation are much bigger.
  2. *Temporary Boost*: The boost to growth is temporary. Over time, the increase in import prices may feed through to higher wages. This gradually erodes the competitive benefits from devaluation.

Uncovered Interest Parity

- Suppose money can flow easily between the US and the Euro area.
- Suppose also that investors can buy either US or European risk-free one-period bonds. European bonds have an interest rate of i_t^E and US bonds have an interest rate of i_t^{US}.
- Let e_t represent the amount of dollars that can be obtained for one Euro: Currently e_t is about 1.06.
- The return to an investor who exchanges dollars for euros, buys a European bond, and then turns the proceeds back into dollars next year is $i_t^E + \frac{e_{t+1} - e_t}{e_t}$.
- The uncovered interest parity (UIP) theory says that if investors are indifferent between domestic and foreign bonds then the expected return on them should be the same. In our example, this implies

$$i_t^{US} = i_t^E + \frac{E_t e_{t+1} - e_t}{e_t}$$

  where $E_t e_{t+1}$ means the expectation at time t of the exchange rate at time $t+1$.
- If European interest rates are lower than US rates, then the Euro must be expected to appreciate.

The Trilemma

- The logic of the last slide is that it is not possible to have all three of the following:
    1. Free capital mobility (money moving freely in and out of the country).
    2. A fixed exchange rate.
    3. Independent monetary policy.
- You can have any two, but not the third:
    1. You can have free capital mobility and a fixed exchange rate (so that $E_t e_{t+1} = e_t$) but then your interest rates must equal those of the area you have fixed exchange against ($i_t^{US} = i_t^E$) e.g. Ireland.
    2. You can have free capital mobility and set your own monetary policy ($i_t^{US} \neq i_t^E$) but then your exchange rate must fluctuate freely (so that $E_t e_{t+1} \neq e_t$) e.g. the UK.
    3. You can set your own monetary policy and fix your exchange rate against another country, but then you must intervene in capital markets to prevent people talking advantage of investment arbitrage opportunities, e.g. China.

Optimal Currency Areas

- What do governments consider when deciding whether or not to have their own currency that floats freely against other currencies?
- Small countries in which most of GDP is exported place a lot of value on stability of their exchange rate, particularly if they are selling most of their goods and services to one economic area.
- For these countries, it is perhaps best to have a fixed exchange rate against their main trading partner. Indeed, they may decide to simply adopt the same currency as their partner.
- These small currencies are generally considered be too small to be *optimal currency areas*.
- For larger countries, trade may not be as important, so exchange rate stability is not key.
- If these countries are less open, they may have their own distinct economic cyclical pattern and may not be happy with the macroeconomic policy that stems from having the same level of interest rates as their trading partners.
- In this case, they may decide its best to have their own currency.

Is the Euro Area an Optimal Currency Area?

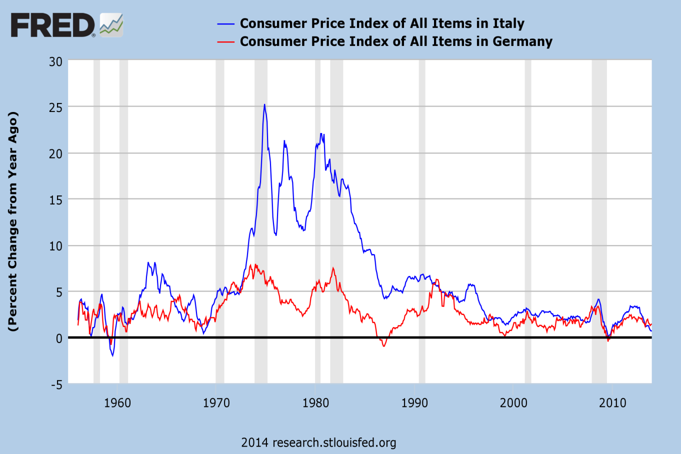
There are a number of reasons why the Euro Area falls some way short of being an optimal currency area:

1. **Size and Asymmetries**: Across such a large economic area as the Eurozone, it is inevitable that various member states may be going through very different phases of the economic cycle. For instance, at the moment, the monetary policy that suits Germany is not the policy that would suit Ireland or Spain.
2. **Lack of Fiscal Integration**: When regions inside common currency areas that are doing badly can pay less tax and receive extra transfer payments, the inability to pursue a regional monetary policy is less likely to be a problem.
3. **Lack of Labour Mobility**: There is relatively little labour mobility between EU countries, so unemployment will not be reduced by out migration in the way it is in US states, for example.
4. **Lack of Central Backstop for Banking**: In the US, deposit insurance and resolution of insolvent banks is done on a centralised basis. The Euro area now has a common bank supervisor but deposit insurance and resolution is still likely to remain a largely national responsibility.

Arguments for the Common Currency

- So why did European leaders go ahead with a common currency in 1999?
- There were some economic arguments:
  1. Many countries in the EU had already wanted to have their currencies pegged to the German mark.
  2. Fixed exchange rate regimes can be subject to self-fulfilling speculative crises. Investors sell large amounts of the currency (e.g. the punt) to obtain the alternative (e.g. the DM) until the central bank runs out of DM reserves and then has to devalue. Full EMU was seen as an alternative to "fixed" exchange rates with regular crises.
  3. Countries such as Italy, which historically had a poor inflation performance, hoped to benefit from the Bundesbank's credibility by joining a new "hard" common currency.
  4. The common currency was seen as reinforcing the microeconomic gains from the single European market project.
- Ultimately, however, most advocates of the common currency conceded that it was largely a *political* project, aimed at deepening the process of political integration in Europe.

Inflation in Italy and Germany



Currency Choice for Ireland

- All EU members must maintain full capital mobility as part of the Single Market. So the choice is between having a flexible exchange rate or giving up control of their own monetary policy.
- For Ireland, the decision to join the Euro was a complex one and Euro membership was a decidedly mixed blessing:
  1. Ireland is a small open economy so it could be argued that it is not an optimal currency area.
  2. But it has no single dominant trading partner currency. Ireland trades a lot with the Euro area, the UK and the US, so there was no clear choice of currency to peg against and perhaps a floating rate might still have made sense.
  3. However, a floating exchange rate may mean that investors may demand a risk premium for investing in a country's debt if there is a chance that it may devalue its currency. With this risk premium eliminated, membership of the Euro lead to lower interest rates.
  4. These low interest rates boosted Irish economic growth. But at a time of exceptional growth, this wasn't helpful for maintaining stability and helped to fuel the housing bubble and subsequent banking crash.

Part II

The Euro Crisis

The Euro Area Crisis

- A few years ago it was common to hear global economic policy makers and journalists remark on what a great success the euro was.
- In recent years, however, it has become common to hear people talk about the end of the euro. Even Europe's finance ministers casually discussed the idea that certain countries might leave the euro.
- There is a bit less pessimism about the euro right now relative to a few years ago but there is still lots of talk of countries such as Greece potentially leaving the euro and nobody really knows what would happen after that.
- So how did we get here and what does the future hold for the euro? This is a very complex subject and we can't do justice to it in the time we have.
- We will focus on:
  1. How people thought the euro might work.
  2. How the early years of the euro worked in practice.
  3. The factors that caused a crisis in the euro area.
  4. Policy actions and where we stand now.
  5. Challenges for growth in the euro area.
  6. Issues related to euro exit.

Three Responses to Debt Crises

- There is a large literature on debt crises and how they end.
- Traditionally, countries with very high debt-GDP levels reduce them in one of three ways:

  1. **High Rates of Nominal GDP Growth**: It is rare to see countries actually pay down large amounts of nominal debt. Instead, debt ratios come down mainly through high growth in the denominator, i.e. nominal GDP. In many cases, it is high rates of inflation that drives this growth.
  2. **Financial Repression**: Governments can pass laws that force banks or pension funds to hold their debt even if it carries a low rate of interest.
  3. **Default**: The direct way to cut debt! Default can mean a complete failure to pay but it can also mean a restructuring that sees maturities extended and interest payments reduced.

- With the ECB targeting a low rate of inflation and financial repression methods running against EU laws on free movement of capital, you might have expected before the euro came into existence that debt problems for euro area countries would be dealt with via sovereign defaults.

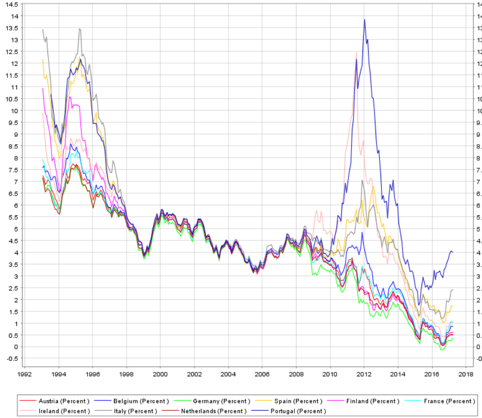
Public Debt: What Economists Thought Would Happen

- My paper "Sovereign Default and the Euro" discusses the debate about euro that took place during the 1990s.
- Lots of papers were written in 1990s about EMU. A small number warned about problems with sovereign default (e.g. Goodhart) but most did not.
- Economists generally believed
  1. There would no bailouts for countries with fiscal problems.
  2. There would be no sovereign bond purchases by ECB.
  3. So defaults could happen but it was generally expected that spillovers to the banking sector or to other economies would be limited.
  4. And it was expected that the Stability and Growth Pact would help maintain fiscal stability.
- Debate largely focused on whether the Eurozone was going to be an optimum currency area. US economists pointed out many of the ways in which the Eurozone would not be an optimal currency area and would find it difficult to cope with asymmetric shocks
- Some Europeans argued there would be less asymmetric shocks once the euro was in place. (That wasn't a great prediction).

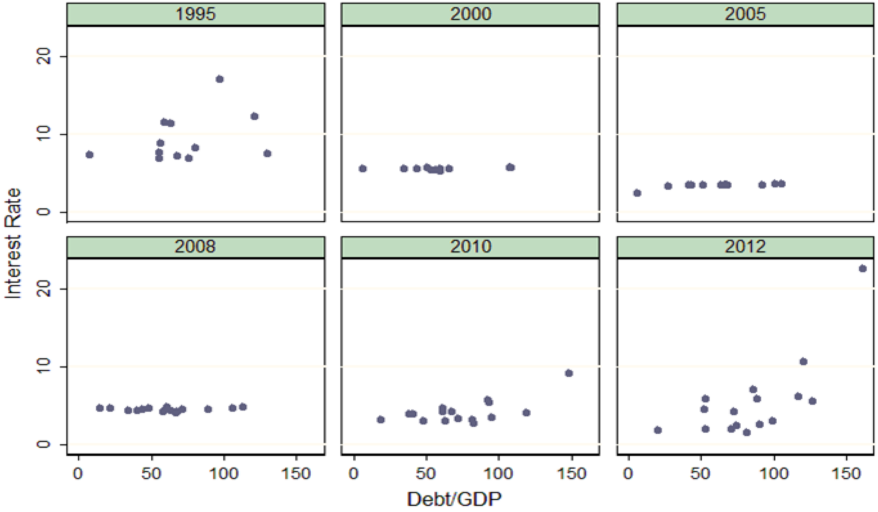
Public Debt: What Actually Happened

- The early years showed the Stability and Growth Pact to be toothless. It was violated by France and Germany and then others.
- But markets celebrated the elimination of devaluation and inflation risk and began to price all Eurozone sovereign debt very similarly. Public debt levels seemed to have almost no impact on borrowing rates.
- This may partly have been because, despite the SGP failings, they believed that euro area countries would ultimately pursue sound fiscal policies.
- Alternatively, investors may not have believed earlier pledges about no bailouts. Indeed, it turned out that the European Treaty's so-called "no bailout clause" actually didn't rule out bailouts at all.
- Low sovereign debt yields fuelled self-fulfilling expectations of low default risk. While debt levels did not fall much, the cost of servicing it did e.g. Debt interest share of Italian GDP fell from 14% in 1993 to 5% in 2004, so a much smaller primary surplus was needed to stabilise the debt.
- This lowered the political pressure on countries like Greece and Italy to deal with long-standing fiscal problems.

10-Year Bond Yields of Selected Countries: 1993-2016



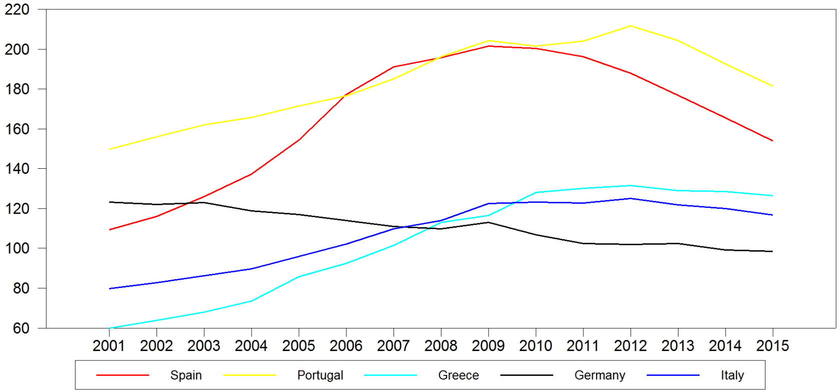
Public Debt Ratios and Government Bond Yields



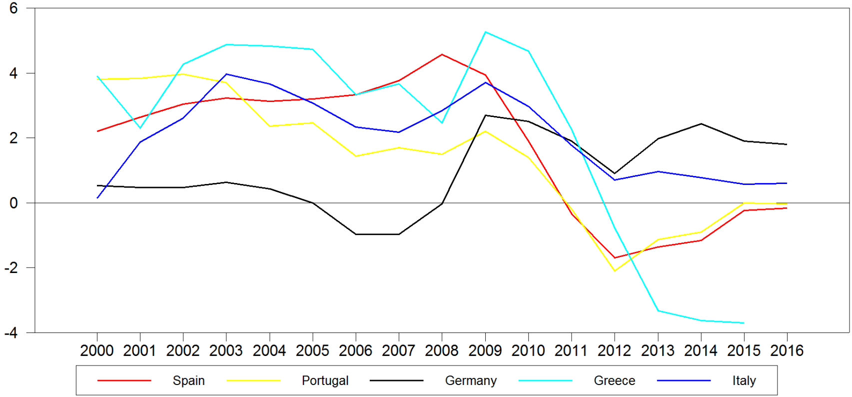
Implications for Private Debt

- The elimination of risk spreads was a big asymmetric shock: It had a profound effect in countries like Spain and Ireland and very little effect in "core" euro area states such as Germany.
- Lower public borrowing rates were largely passed though to the private sector.
- Firms and households could now borrow at much lower rates and they (and their banks) believed that they could handle much larger stocks of debt.
- With most of Europe now using a single currency, an integrated European financial market emerged which channelled a lot of money from Europe's core to its periphery either via bond market lending or via core country financial institutions expanding their operations into Euro-area member states in which they had previously not done business.
- These developments boosted domestic demand in many countries leading to a loss of competitiveness and higher current account deficits. In countries like Ireland and Spain in particular, the huge increases in debt fuelled house price bubbles and construction booms.
- When the global financial crisis came, many peripheral economies were left with high debt, weak banking sectors and serious competitiveness problems.

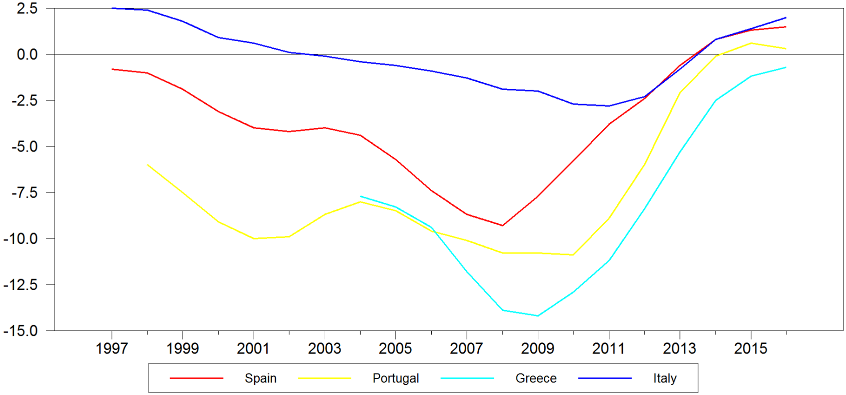
Private Debt as a Share of GDP



Growth in Unit Labour Costs (3 Year Average)



Current Accounts As Percent of GDP (3 Year Average)



The Unwinding of EMU

The global financial crisis that began in 2007 brought an end to many of the trends that had allowed the build-up of debt in the periphery.

1. **Re-Appearance of Sovereign Risk Premia**: After a long period in which financial markets ignored sovereign default risk, developments of recent years have seen sovereign debt risk premia re-emerge with much of this increase being passed through to private sector rates.
2. **Increases in Private Risk Premia**: Lehman Brothers led to a re-pricing of financial sector risk. In particular, financial markets began focusing on the build-up of debt that occurred in peripheral Euro area economies.
3. **Financial Sector Deleveraging**: The global crisis brought home to investors and regulators the problems associated with over-sized and over-leveraged financial institutions. As banks executed deleveraging programmes, there has been a significant decline in private sector lending to peripheral economies.
4. **Reversal of Financial Integration**: With major banks in core countries having received significant assistance from governments, there has been a general tendency for banks to deleverage via withdrawing from lending to peripheral economies.

Default Inside the Euro

- In May 2011, the euro area leaders set up the bailout fund that has now become the European Stabilisation Mechanism.
- Those who expected no bailouts underestimated
  1. The perception across the euro area of shared political damage due to defaults.
  2. Populist desire to blame "speculators" for the euro's problems.
  3. Concerns about knock-on effects of sovereign defaults on banks.
- But those who expected no default ever in the Eurozone were also proved wrong. Setting up the bailout fund prevented default in Ireland and Portugal but it only delayed default in Greece.
- As Greek debt unsustainability became clear, Eurozone leaders became worried about not getting their money back. Deauville declaration in 2010 calling for "adequate participation of private creditors" a key turning point.
- By summer 2011, Europe's leaders reluctantly accepted that Greece was not going to be able to pay back all of its debts and that its private-sector debt should be "restructured." A deal swapping privately-held Greek bonds for new ones with lower value took place in April 2012.

2012: The Euro on the Verge

- By late 2011, with states such as Italy and Spain under massive pressure and the Eurozone in recession, there was widespread concern that countries would leave the euro rather than deal with long-term austerity and/or disruptive sovereign defaults.
- Sovereign yields were rising to unsustainable rates in many countries and banks in the periphery were seeing huge withdrawals of funds as depositors and bond investors feared their investments could be redenominated into new, lower-valued, currencies.
- Pressure began to grow on the ECB to use its money-creation powers to ease pressure on governments and help to keep the euro together.
- The first significant step taken by the ECB was the introduction of the huge Long-Term Refinancing Operations (LTRO) of late 2011 and early 2012 eased funding pressure on banks in the periphery. Many of the funds loaned to banks were used to purchase sovereign bonds of peripheral countries and yields temporarily declined.
- But by summer 2012, the LRTO purchases were seen as a temporary "sticking plaster" measure and talk that various countries would soon possibly leave the euro was rampant.

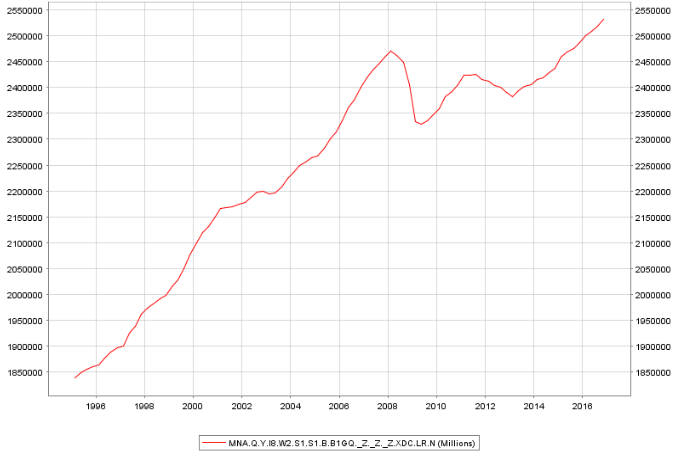
The ECB's Policy Responses: OMT

- By summer 2012, the positive effects of the LTRO had begun to fade away and Spanish bond yields were moving up to their euro-era highs.
- Mario Draghi gave a speech in July 2012 in which he said the ECB "would do whatever it takes" to save the Euro.
- In September 2012, ECB announced a new programme of secondary bond purchases, known as the Outright Monetary Transactions (OMT) programme.
- This programme would see the ECB making sovereign bond purchases on the secondary bond markets without placing any limits on how much would be purchased. Countries seeking the ECB to make OMT purchases would have to agree a programme of fiscal adjustment with the European Stabilisation Mechanism (ESM).
- While no country has yet requested an OMT intervention from the ECB, it is widely thought that the OMT can cut off the vicious circle by which a loss of confidence in a country leads to higher yields and a quick default.
- The existence of OMT has greatly reduced sovereign bond yields in the periphery and has helped Ireland to exit from its EU-IMF programme by availing of market funding.

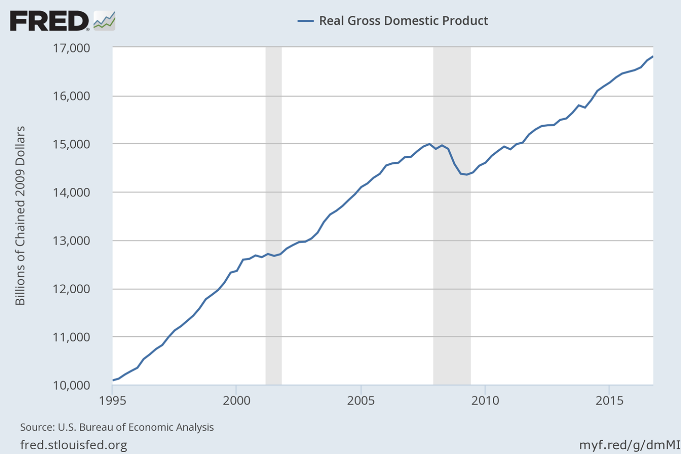
The Euro Area's Weak Recovery

- The ECB policy may have saved euro for now but the euro area's economic performance over the past decade has been very poor.
- Euro area real GDP in 2016:Q4 was only 2.5% above pre-crisis peak reached in 2008:Q1, compared with U.S. where real GDP was 12% above its pre-crisis peak despite perceptions that the recovery has been weak.
- Factors that restrained growth included
    1. **Fiscal Adjustment**: The tax reductions and increased welfare spending associated with recession dramatically increased budget deficits leading to years of fiscal adjustment.
    2. **Private Debt**: Households and businesses in many countries ended up with very high debt burdens and this depressed consumption and investment.
    3. **Banking Problems**: Deep recession damaged the balance sheets of European banks. Years of repairing these balance sheets and complying with tougher regulation lead to tight credit for many years, though this is now easing somewhat.
- The European economy also has long run supply problems associated with weak productivity growth and an ageing population.

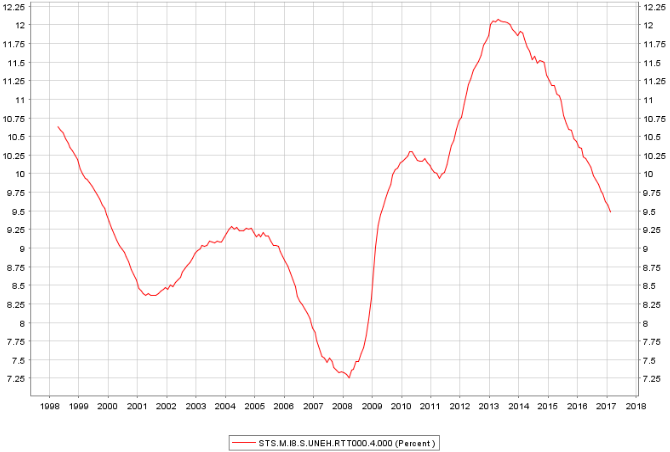
Real GDP in the Euro Area



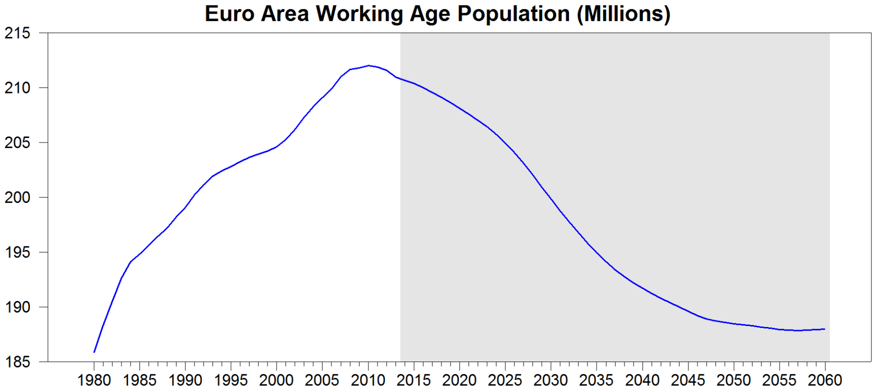
Real GDP in the United States



Euro Area Unemployment Rate



Working Age Population Set to Contract



Crisis Over? Not Quite

So is the Euro crisis over? I can see two particular sources of potential break-up.

1. **Political Problems from a Long Slump**: Greece is the most obvious example of how debt problems and a long slump could end in euro exit. But years of poor growth could lead to a failure to stabilise debt ratios in countries like Italy. What happens then? Ongoing ECB support? Rolling ESM programmes? More sovereign defaults? Public opinion may move towards leaving the euro.
2. **A Banking Crisis**: Events in Cyprus in 2013 and Greece in 2015 show how banking problems can potentially destabilise the euro.
   - EU and ECB were unwilling to provide the capital and liquidity to restore confidence in the Greek or Cypriot banks so instead they imposed capital controls: A euro in Greece or Cyprus stayed trapped in these countries.
   - Depositors in other countries did not react but future attemps to impose capital controls could trigger deposit outflows and possibly euro exits.
   - Other countries may decide that exit and redonomination of deposits is a better outcome than deposit haircuts, as happened in Cyprus.

This tweet from UK economist George Magnus captures the situation well "Euro sceptics still waiting for euro to break. Europhiles still waiting for it to work. Long game."

Leaving the Euro: Logistics

- Can a country actually leave the euro? The euro is intended to be fixed and irrevocable, so there is no official legal way to leave.
- See the ECB legal working paper on the website. Leaving the euro likely involves reneging on Treaty commitments and those leaving the EU altogether.
- If people expect that the new currency will be worth less than the old one, then they will likely pull their money out of domestic banks and look to send it abroad. To some extent, we have already seen this happen in Greece, Spain and elsewhere. But an official pre-announced plan to leave would cause chaos.
- An exit would likely work as follows:
  - It would occur over a weekend.
  - Banks would not re-open the following Monday and payment systems would be shut down.
  - A law would be passed redenominating all deposit accounts.
  - When ATM machines start working again, they would dispense euro notes with a new stamp to indicate they they're not euros, they're drachmas, liras, whatever. And, within a week or two, new notes would be dispensed replacing the stamped euros.

The End of the Euro: The Mother of All Crises?

- Many European policy makers say the exit of a single country (e.g. Greece) would be "manageable". I'm not sure. See my blog post "Would a Greek Exit Really Be Manageable?"
- If one country left, it is likely that investors and depositors would anticipate that others would also leave. To prevent massive outflows of capital, these countries may need to impose capital controls.
- Despite the precedents from Cyprus and Greece, it would probably be difficult to re-establish the euro as a common currency after widespread restrictions have been put in place that prevent euros moving from one country to another.
- If there was a full euro break-up, the outcome would likely be chaotic. The meaning of financial contracts denominated in euro would be completely uncertain. There would be large-scale defaults as creditors with lira and drachma assets may be unable to pay back foreign liabilities previously denominated in euro.
- While the world would pull through in the end, the resulting uncertainty would likely make Lehman Brothers look like a tea party.

Recap: Key Points from Part 17

Things you need to understand from these notes.

1. How do changes in exchange rates affect the economy?
2. Effects over time of devaluations.
3. Uncovered interest parity.
4. The Trilemma.
5. Optimal currency areas.
6. Arguments for and against have a common European currency.
7. Motivations for European countries joining the euro.
8. Three main responses to debt crises.
9. Public and private debt developments in the euro area.
10. The unwinding of EMU during the crisis.
11. The euro crisis of 2012 and the ECB's response.
12. Issues related to potential exits from the euro.