

Yes, Europe Can Become a Stable Currency Area*

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Abstract

The traditional critique says that the Euro zone (EZ) cannot be a stable currency area because it is more heterogenous than the US, and it lacks labor mobility and a large enough federal budget. I argue that this critique is much less relevant than commonly thought. Indeed, during the recent crisis: (i) shocks are more asymmetric within the US than within the EZ; (ii) labor mobility plays no role in rebalancing the US economy; (iii) until 2010 the EZ is able to smooth asymmetric shocks at least as well as the US. To understand the relative stability of the US, one should instead focus on the interaction of sovereign risk and bank risk. The EZ can become a stable currency area if and only if it adopts: (i) long-term fiscal discipline; (ii) an integrated system of financial regulation, including EZ-level deposit insurance; and (iii) a (limited) amount of joint-liability instruments (Eurobills or bonds). These features are enough to ensure financial stability and, unlike massive migrations or a large federal budget, they are feasible.

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The “impossible trinity” proposition in international finance says that a country cannot simultaneously maintain free capital flows, a fixed exchange rate, and an independent monetary policy. A country can only choose which one to give up. China has chosen to keep capital controls, while the US and the EZ let their exchange rates fluctuate. Within the Euro zone (EZ), however, countries have chosen to give up monetary policy. The creation of the Euro was a political decision, and was criticized as such by several well-known economists. Feldstein (2011), to give just one example, argues that the EZ cannot be an optimal currency area because it receives asymmetric shocks, and it lacks labor mobility and a large enough federal budget.

To be clear, there is no doubt that something is deeply wrong with the EZ, and its very existence has been threatened. There is also no doubt that increasing labor mobility could help stabilize the EZ. But that is not the relevant question. The question is whether large scale migrations are a necessary condition for monetary stability. Or, to put it differently, when we compare the stability of the US with the instability of the EZ over the past 2 years, can we say that the US remains stable because its shocks are less asymmetric or because migrations and fiscal transfers effectively smooth out these shocks?

I argue that the answer is no and that the traditional analysis misses the true nature of systemic risk and the true reason why the US is stable while the EZ is not. Instead, I will present a list of requirements that, if ambitious, are nonetheless within the realm of democratic and political feasibility. But let me first explain why I think that the traditional approach misses the point.

1 Traditional Theory of Optimal Currency Areas

The traditional theory of optimal currency areas is due to Mundell (1961). This theory emphasizes the trade-off between the benefits of a single currency and the costs. I will not discuss the benefits here, and will instead focus on the costs. These costs are high when:

- shocks are asymmetric
- labor mobility is low

More recently, the debate has emphasized a new feature:

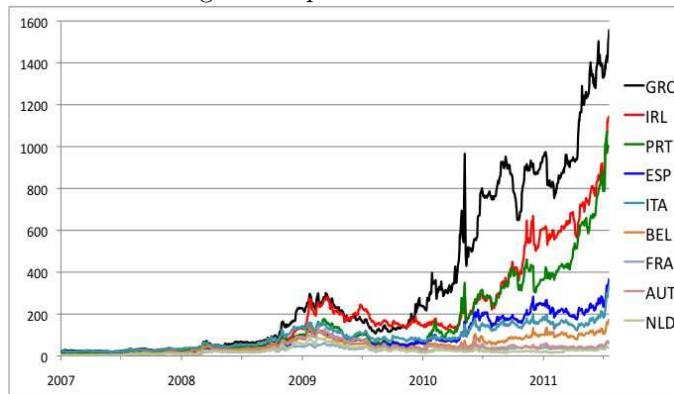
- A large federal budget is needed to provide fiscal insurance (think unemployment insurance for instance)

Let me study these three points in turn. The idea of the analysis is to study how the two currency areas, EZ and US, reacted to the Great Recession. To do so in a fruitful way, however, it is essential to distinguish two stages of the recession:

- Stage 1: private debt crisis, from 2007 to early 2010;
- Stage 2: private and sovereign debt crisis, from 2010 and still going.

The cutoff in early 2010 corresponds to the time where the markets started to worry about sovereign risks for major EZ countries, as illustrated in Figure 1. The key point is that until 2010, the spreads for Spain and Italy were essentially zero.

Figure 1: Spreads over Bunds



Notes. Sovereign bond spreads over Germany, 10 year maturities.

1.1 Asymmetric shocks

Both the US and the EZ are in the midst of the severe deleveraging crisis. Midrigan and Philippon (2010), Guerrieri and Lorenzoni (2010) and Eggertsson and Krugman (2011) study the responses of an economy to a household-level credit crunch. Aguiar, Amador, and Gopinath (forthcoming) study sovereign debt overhang.

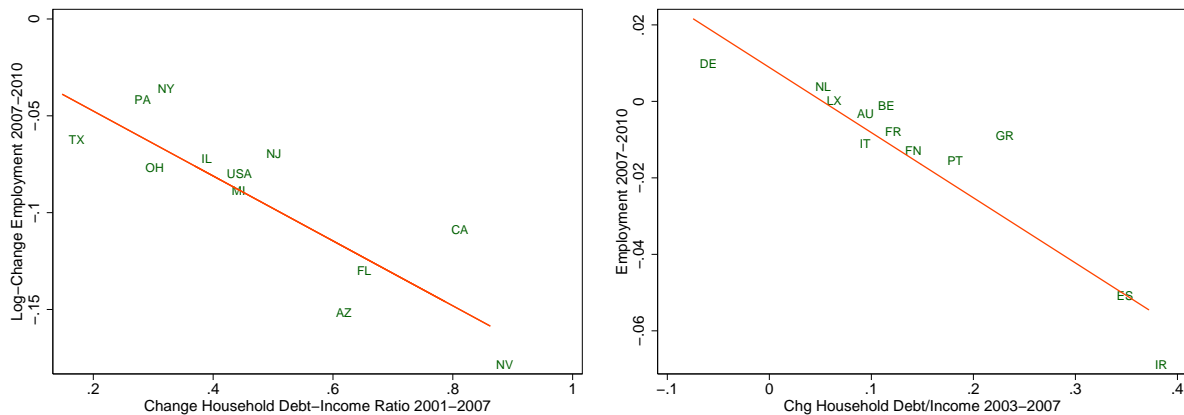
An important feature of the crisis is that it is very asymmetric across states and countries. As turns out, however, the asymmetries are larger within the US than within the EZ. First, during the credit and housing booms, the dispersion in consumer borrowing was larger across US states (within the US) than across EZ countries (within the EZ), as shown on the horizontal axis of Figure 2.¹

The vertical axis of Figure 2 measure employment growth during the first stage of the recession. In both the US and the EZ, regions that experienced larger household credit booms between 2001 and 2007 also

¹Mian and Sufi (2010) and Midrigan and Philippon (2010) study how consumer borrowing in the US was itself driven by increases in house prices. Dispersion in home price increases was slightly larger within the EZ than within the US. From 2001 to the peak of the housing bubble, home prices went up 30% in Texas, and about 210% in Florida or California. Within the EZ, prices were flat in Germany and increased about 240% in Spain. For my purposes, however, the most important indicator is the dispersion in household leverage.

experienced more negative employment growth between 2007 and 2010. (See Midrigan and Philippon (2010) for more details).

Figure 2: First Stage of the Great Recession: Household Borrowing predicts Employment Bust



Notes. Employment Growth from 2007 to mid-2010. The change in household debt to income ratio from 2001 to 2007 for the US is from Midrigan and Philippon (2010). For the EU, the change is from 2003 to 2007 because of data limitations.

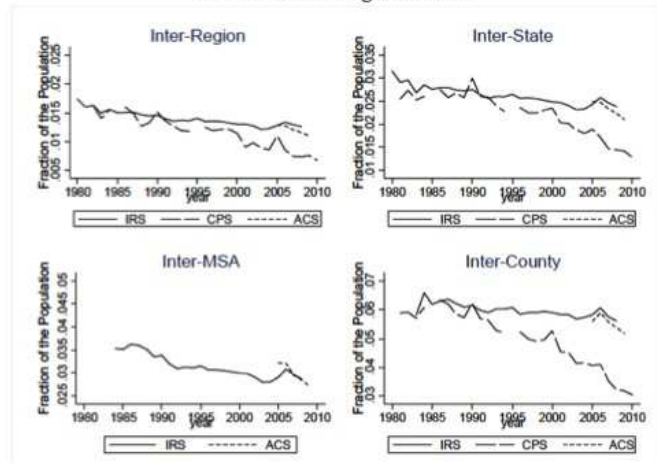
During the first stage of the Great Recession, from 2007 to 2010, as households started a painful deleveraging process, the declines in employment were more asymmetric across US states than across EZ countries. The conclusion seems to be that shocks were in fact more asymmetric within the US than within the EZ.

1.2 Labor Mobility

There is no question that labor mobility can help smooth asymmetric shocks. But the relevant question is how much it has helped the US in practice. Here it is important to highlight two facts. First, labor mobility has been declining in the US over the past 30 years, as shown by Raven Molloy and Wozniak (2011).

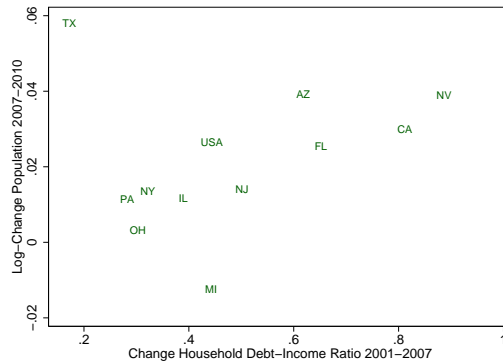
The decline in migration is a trend, not a recent phenomenon. But it is also important to focus on the very recent experience. Figure 4 shows the net changes in population across US states from 2007 to 2010, as a function of the initial household borrowing (defined as in Figure 2). Recall from Figure 2 that it is states with high household borrowing that have experienced large drops in employment. To smooth these shocks, one would expect to see population growing in low leverage regions, and shrinking in others. This would predict a strong negative pattern on Figure 4. This is clearly not the case. During the great recession, changes in population have done little to smooth asymmetries across regions in the US.

Figure 3: Migrations within the US
Annual Internal Migration Rates



Notes. From Raven Molloy and Wozniak (2011)

Figure 4: Population Growth during the Great Recession



1.3 Federal Budget

Economists also argue that a large federal budget is needed to provide fiscal insurance (think unemployment insurance for instance). Again, just like with labor mobility, there is no question that fiscal transfers are useful to provide insurance. The question, however, are: How much of a difference do they really make?

It is important here to emphasize recent research on incomplete markets. This research shows that agents can effectively self-insure in the long run, provided they can trade bonds. The idea is simply that precautionary savings is a fairly good substitute for explicit insurance markets, at least in the long run.

With this idea in mind, we can think of two ways to smooth asymmetric shocks. One is to use federal transfers: after a negative shock, the state receives net transfers from the federal government (via unemployment insurance, for instance). This resembles the complete market solution. The other is to use independent

fiscal policies: after a negative shock, the country runs a temporary budget deficit, or, equivalently, runs down its holding of liquid foreign claims. This resembles self-insurance.

Going back to Figure 2, instead of looking at the magnitudes of the shocks as we have done earlier, we can now look at the slope of the curve, that is to say, how much a given local shock translates into a local recession. Formally, the slope is a function of the degree of nominal rigidity (downward rigid wages for instance), the degree of real rigidity (the adjustment costs of switching workers from the non-tradable sector to the tradable sector), the demand elasticity of tradable goods, and the degree of insurance (self-insurance or federal transfers). The slope is actually slightly *smaller* within the EZ than within the US, suggesting either less rigidity in the labor market, or more efficient insurance, or both.²

There is therefore no evidence that US states were more insured (per unit of shock) than EZ states. In other words, as long as sovereign EZ countries were deemed solvent, they were able to smooth the asymmetries at least as well as the US with its much larger federal budget.

I summarize my results so far in the following proposition:

Proposition 1. *Inadequacy of Traditional Analysis.* *During the first stage of the Great Recession, from 2007 to 2010, there is no evidence that the US behaved more like an optimal currency area than the EZ:*

- (i) shocks were more asymmetric within the US than within the EZ;*
- (ii) migrations have not helped rebalancing within the US;*
- (iii) self-insurance by EZ countries was just as effective as federal transfers within the US.*

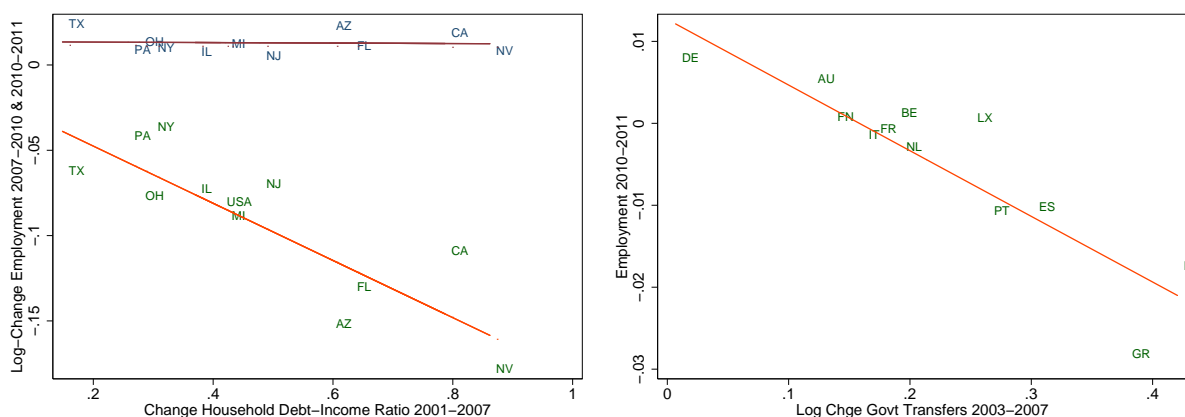
The key, of course, is what happens after 2010.

1.4 Stage 2 of the Crisis

Figure 5 illustrates the differences between the American and European experiences in this second stage. Starting in the Spring of 2010 with the sovereign crisis and the difficulty for several European countries to borrow on financial markets, the US and EZ experiences differ markedly. While US states grow slowly together, EZ countries experience drastically different growth rates. But the state variable that predicts labor markets performance is not household leverage anymore (as in Figure 2), but it is government spending during the boom. EZ countries where government spending increased the most from 2003 to 2007 are the ones that are now experiencing severe recessions in the second stage (a rather similar picture emerges if one considers

²For a structural interpretation of the slope, see Midrigan and Philippon (2010). Looking at consumption data suggests slightly better insurance with the EZ because it appears that consumption drops were more severe within the US. But this is a complex issue that is beyond the scope of this paper. See Martin, Philippon, and Villemot (2012) for more details.

Figure 5: Second Stage of the Great Recession: Government Spending predicts Employment Bust



Notes. Employment Growth from mid-2010 to end of 2011. LHS show US experience, from 2007 to mid 2010 (as in Figure 2), and then from mid 2010 to end of 2011. Right Panel shows EZ experience from mid 2010 to end of 2011, as function of log-change in government transfers from 2003 to 2007.

Current Account imbalances in 2007 instead of government spending).

2 A New Approach: Dealing with Systemic Risk in a Currency Area

The traditional critique says that the EZ cannot be an optimal currency area because, unlike the US, it lacks labor mobility and a large central government. I have argued that this critique largely misses the point. The more important question, however, is to identify the true requirements for monetary stability.

From 2010 to 2012, the EZ clearly showed that it was not a stable currency area because it allowed systemic risk to build up and spread inside the zone. Therefore, what is required to make the EZ an is to deal with the sources of systemic risk, nothing less, but nothing more. In particular, massive migrations and large scale fiscal transfers are not required.

The traditional approach misses the key issue of systemic risk created by the interaction of financial crises and sovereign default risk. I therefore submit the following proposition:

Proposition 2. Requirements for a Stable Currency Area (SCA). *To be stable, a currency area must have the following features:*

- (i) long-run fiscal discipline;
- (ii) an integrated system of financial regulation, including federal deposit insurance;

(iii) a limited amount of joint-liability instruments (Eurobills or Eurobonds);

Let me now discuss these points.

2.1 Long-Run Fiscal Discipline

That fiscal policy is a required instrument in a monetary union is simply textbook economics. As argued earlier, the interesting question is how it is implemented (Marzinotto, Sapir, and Wolff, 2011). In the US, it is implemented via fiscal transfers. These transfers have not been very effective during the recent crisis because of the lack of coordination between the federal and states governments. In the EZ, fiscal policy is largely decentralized. In this context, fiscal discipline is needed for two reasons.

First, countries must maintain some fiscal slack to effectively be able to smooth asymmetric shocks. An important problem for the EZ is that too many countries started with too high levels of public debt. The prime examples are of course Greece and Italy, but the same essentially applies to France. I will therefore use France as a example. France's fiscal policy was largely effective in 2009. Automatic stabilizers are large in France, and programs focused on specific markets (cars for instance) managed to alleviate the downturn. If France had started from a debt to GDP ratio of less than 60%, there is little doubt that markets would not have doubted its solvency, and, I would argue, probably not the solvency of its major banks either. The same essentially applies to Italy. Long run discipline is therefore needed to effectively implement the self-insurance idea developed earlier. The key point, however, is that self-insurance has been quite effective from 2007 to 2010.

The second reason that fiscal discipline is imperative relates to the next two points I will discuss. Both involve a form of fiscal integration, albeit a limited one, both therefore require fiscal discipline. How this is best achieved is a matter of debate. In my view, the critical point is the debt-to-GDP ratio. Countries must keep a significant buffer of fiscal slack. The fact a country might run a balanced budget in any given year appears to me to be secondary, and, at the very least, should never distract us from the requirement that debt-to-GDP ratio cannot be much higher than 50% in steady state.

2.2 Financial Regulation

The crisis has shown that a currency area cannot survive without an integrated regime of financial regulation. This is of course not a new idea. Véron (2007), for instance, provides a prescient analysis.³ The critical

³See also Posen and Véron (2009), Gianviti, Krueger, Pisani-Ferry, Sapir, and von Hagen (2010), (Fonteyne, Bossu, Cortavarria-Checkley, Giustiniani, Gullo, Hardy, and Kerr, 2010).

points are as follows.

Deposit Insurance

The relevance of federal deposit insurance has long been recognized, but its importance was under-estimated.

It is enough to give 2 examples:

- If Bank of America becomes insolvent, the fate of its depositors does not depend on the fiscal capacity of North Carolina.
- If California default on its municipal debt, this does not threaten the protection Wells Fargo's depositors.

It is obvious that without federal deposit insurance, the situation in the US would have been a lot worse.

Just as importantly, many issues in Europe would have been avoided had we had deposit insurance. Depositors in Irish banks would not fled. The Irish government would not have panicked and decided to insure all kinds of liabilities, thereby essentially bankrupting the country. Instead, stronger haircuts could have been imposed on unsecured creditors.

Banking and Insurance Regulation

Beyond Basel 2 and 3, the EZ must choose how to regulate its banks, and design its own Vickers or Volcker rules, or, in my view, something else altogether that would be better suited to the European banking landscape. In any case, there must be an EZ-wide regulator. For an illuminating discussion of this issue, see Hellwig (2011).

EZ deposit insurance creates the need to EZ banking regulation. For a start, the insurance must be funded with an EZ-level tax. In addition, and just like with sovereign debt, it is not possible to let any individual country's banks free-ride on the common guarantee.

Credit Growth Monitoring

The path-breaking research of Reinhart and Rogoff (2009) and Schularick and Taylor (forthcoming) shows that credit growth is the prime driver of systemic risk. To avoid massive private imbalances, such as in Spain or Ireland, counter-cyclical credit policies must be implemented. What is less obvious is exactly which instruments should be used: haircuts by the central bank, limits on leverage by end-borrowers (households or firms), restrictions on debt maturities, etc.

2.3 Joint-Liability Instruments

Joint liability instruments are needed:

- to prevent self-fulfilling liquidity crisis,
- to share the benefits of safety seignorage,
- and to facilitate the transmission of monetary policy.

These instruments are obviously needed for the monetary transmission mechanism. Hellwig and Philippon (2011) have made a minimalist proposal: Eurobills, i.e., short term instruments. More ambitious and creative ideas are discussed in Delpla and von Weizsäcker (2010), Bofinger, Feld, Franz, Schmidt, and Weder di Mauro (2010) and Brunnermeier, Garicano, Lane, Pagano, Reis, Santos, Pagano, Thesmar, Van Nieuwerburgh, and Vayanos (2011). The key issue is of course moral hazard, which creates a difficult tradeoff between insurance and incentives. I refer the interested readers to these contributions for a much more in-depth discussion of the pros and cons of each proposal.

The need from joint liability instruments is obvious from the European Central Bank's widely successful LTRO programs. The ECB *is* a joint liability instrument for the currency area. In fact, it is currently the only one. LTROs provide a way to manage a currency area in times of deleveraging, credit crunch, and rollover risk. LTROs, however, cannot be a permanent solution. They put too much responsibility in the hands of the central bank, and they have at least one major dangerous side effect. They effectively increase the segmentation of banking and sovereign debt markets, since it appears that banks are disproportionately buying the debt of their own sovereigns. As a result LTROs risk increasing the diabolic loop between sovereign and banking risk. The Eurobills proposal is essentially designed to achieve the same goals without creating the negative side effects. Compared to Eurobills, LTROs also have a more muted impact on long term rates precisely because they are not perceived by market participants as a permanent solution.

Joint instruments can prevent liquidity crises and allow an efficient sharing of liquidity and flight-to-quality premia. It is important to emphasize the second point. About the only good thing during major macroeconomic crisis is that safe issuers can borrow at negative real interest rates. This provides at least some relief for governments, provided market investors do not doubt their solvency. Without joint instruments, however, the safety seignorage is not fairly shared among members of the currency area, even if all countries are fiscally responsible. This is because the safety premium disproportionately accrues to the safest issuer.⁴

⁴For a striking example, see what happened when the US lost its AAA rating. That clearly did not make it a *safer* issuer. It did, however, increase market risk aversion, and since the US was still the *safest* issuer, its yield actually declined.

Finally, if designed correctly, Eurobills can actually strengthen fiscal discipline, as argued in Hellwig and Philippon (2011).

2.4 A Brief Counter-Factual History of the EZ

Imagine the following counter-factual history. There are still a housing and credit bubbles in some US states and in some EZ states. Deleveraging still creates the most severe recession in the post World-War 2 history. However, I assume that my SCA requirements are satisfied.

France maintains a debt to GDP ratio of less than 60%. As a result, it is able to weather the credit crisis without creating doubts regarding its solvency. It remains AAA. Second, deposit insurance prevents the run on Irish banks. Insolvent banks are closed and uninsured creditors take their losses. The recession in Ireland is severe (assuming that the same housing bubble and burst) but limited, and moral hazard is reduced. Ditto in Spain and Portugal. Of course, losses on Spanish and Irish loans do create losses for EZ banks. But they do not trigger bank runs, and, in the aggregate, households are less levered in the EZ than in the US. Losses are therefore manageable. Thanks to Eurobills, none of these countries actually experience a rollover crisis, and they maintain access to capital markets.

To be clear, I am not assuming away housing bubbles and macroeconomic imbalances. Many countries would still need to reduce their unit labor costs. But the point is that this would happen without a major credit crunch and without a major sovereign debt crisis.⁵

3 Conclusion

Requirements for monetary stability are fundamentally important for thinking about the future of the EZ. I believe that massive migrations or a large federal budget are not feasible for the EZ, at least in the medium run. Labor mobility within Europe has improved but is nowhere near the required size, and EZ citizens simply do not want Brussels to be in charge of managing their welfare state. Therefore, if massive migrations and a large federal budget are indeed necessary conditions for monetary stability (as opposed to simply being helpful), then one would have to agree with the view that the Euro experiment is bound to fail.

I argue, however, that labor mobility and a large federal budget do not in fact explain the stability of the US. Instead, I claim that there are three requirements for making a currency area stable: fiscal discipline; joint financial regulation with deposit insurance; and a joint Treasury bills market. These are

⁵There would of course remain the problem of Greece where the question is whether being part of the EZ can help change its dysfunctional political system. This issue is not really one of designing a stable currency area.

certainly ambitious goals, but unlike massive migrations and transfers of sovereignty, they are politically feasible. Within such a framework, good risk management can successfully contain systemic risk and deliver monetary and financial stability.

Finally, I want to stress that the stability requirements are not a guarantee of economic success. EZ countries (and others) still need to implement structural reforms and growth-oriented policies. Monetary and financial stability simply gives them an opportunity to do so.

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