Prepared for the Special Issue of the Journal of Economics and Business on the Euro Crisis

Draft 11-27-2013

The Political Economy of the Euro Crisis: Cognitive Biases, Faulty Mental Models, and Time Inconsistency[1]

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Abstract

This paper discusses a number of major factors that led to the euro crisis and the failure of officials to deal with it effectively. It is argued that a good deal of these deficiencies in policy can be explained by a combination of faulty mental models, time-inconsistency problems, and cognitive biases such as wishful thinking. The project of European integration has brought great economic benefits and fulfilled the founders' hopes that the European economies would become so tied together that war would be unthinkable. In creating the euro, however, they failed to recognize that monetary integration is fundamentally different from trade integration and that the group of euro countries as a whole did not come close to meeting the criteria for an optimum currency area. Furthermore the institutional infrastructure created for the euro was far too weak to head off emerging problems and to deal effectively with the crisis once it broke out.

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[1] An earlier version of this paper was presented at the Federal Reserve Bank of Atlanta's Conference on Sovereign Debt Issues, November 2011 and a later version at seminars at Duke, George Mason and National Chung Hsing Universities and the Claremont research workshop on international money and financial economics. Comments from David Andrews, Eric Chiu, Chris Manfre, Kishen Rajan, Dick Sweeney, Ed Tower, and Clas Wihlborg have been especially helpful.

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** The Foreign Ministry of Thailand. This paper was written while a research associate of the Claremont Institute of Economic Policy Studies. The views expressed are the author's and do not necessarily reflect those of the Thai government.

1. Introduction and Overview

This paper seeks to develop a better understanding of the major causes of the euro crisis and the reasons why the European policy responses have so often been inept. While concerns about the huge Greek deficits were the spark that provided a wakeup call to the financial markets a much broader set of problems had emerged. The euphoria surrounding the creation of the euro contributed to spending booms in a number of countries, especially on real estate, financed by easy credit generated by banks in the surplus as well as deficit countries. Rather than providing discipline over wage and price behavior the fixed exchange rates implied by the common currency were accompanied by substantial wage and price increases in a number of countries. This in turn led to large current account deficits. These were easily financed in the early days but as doubts emerged about real estate bubbles and the soundness of many private financial institutions as well as concerns about public debt the easy financing dried up and balance of payments crises were added to the picture. Wages and prices in the crisis countries have proven to be much less flexible that would be necessary for needed domestic economic adjustments to work efficiently and the result has been recessions and high unemployment in the crisis hit countries. While as of this writing in fall 2013 the turmoil in financial markets has calmed a good deal and concerns about threats to the continued existence of the euro area have eased, the costs of the crisis on domestic economies remains high. While several of the crisis countries have returned to modest economic growth unemployment remains at record levels and real incomes and output are still well below pre-crisis levels. This in turn has generated social and political crises in a number of countries.

While many factors interacted to generate this fiasco we focus on three types of considerations that we believe have been of particular importance. One is the well-known concept of time inconsistency, but applied to a broader range of issues than the inflation-unemployment dynamics to which it is typically used in macroeconomics. The other two types of considerations require going beyond the traditional economic assumption of well-informed rational actors. We emphasize both the influence of cognitive biases and the sometimes-devastating consequences of placing excessive faith in particular views of the world (mental models).[2]

In the view of many economists the project of creating a common European currency was doomed from the start. It failed by a substantial margin to meet the criteria developed in the literature on optimum currency areas (OCAs) for a currency area to generate net economic benefits and could impose enormous costs as we have now seen.[3] But while economic arguments were made that a common currency was needed to complete European economic integration this was more of a selling strategy to the public than the real reason which was the geopolitical[4] goals of elites to continue to tie the European economies together to avoid the possibilities of future wars and to create greater policy cooperation and sense of European identity. While these were highly

[2] The precise meaning of mental models will be discussed in section 2. We use faulty mental models as a short hand to include views or beliefs about positive analysis that prove to be wrong or at least questionable. We grant that not all experts will necessarily agree with all of our characterizations of the mental models that we consider faulty.

[3] It should be noted that OCA theory does not argue that common currencies are always a bad idea, only that a number of criteria such as having highly flexible economies should be met for the currency area to work well.

[4] Geopolitical refers to foreign policy considerations including national security as opposed to domestic politics. On the history of the European project and the creation of the euro see the analysis and references in Marsh (2009) and (2013) and Van Middelaar (2013).

worthy objectives they had already been largely achieved in one of the most successful cases of social engineering ever carried out. Policy elites, however, were so used to believing that progress toward ever-greater integration was necessary that they failed to recognize both that their major geopolitical objective had already been achieved and that the effects of monetary integration are fundamentally different than those of trade integration. From the perspective of OCA analysis what was surprising is not that a major crisis has occurred but that it took so long to erupt.

The crisis has obvious implications for those advocating the adoption of common currencies in other regions.[5] It also has a number of implications for economic policy making more generally. These include the dangers of focusing excessively on short run effects and hoping that the longer-term consequences will work out all right and that serious disequilibria can be built up through the operation of financial markets as well as through the excesses of governments.

In section 2 we discuss the importance of interactions among time inconsistency problems, cognitive limitations and biases and faulty mental models. In section 3 we discuss how these factors contributed to the creation of the euro. Section 4 discusses how such considerations led to problems in the design of the euro zone and the generation of the conditions that led to the euro crisis. In section 5 we turn to analysis of the over optimism about the workability of the euro zone generated by beliefs in excessively

[5] The Middle East countries who participate in the Gulf Cooperation Council are officially committed to adopting a common currency as are a set of East African nations. In Asia there have been no official commitments, but there has been considerable academic advocacy of an Asian currency union, often based on empirical studies of some of the OCA criteria. See, for example, Boyer (2005), Coeure (2004), Eichengreen (2007a), Eichengreen and Bayoumi (2007), Glick (2005), Khoury and Wihlborg (2008), Salvatore (2008), Volz (2010), Willett et al. (2009), Willett, Permpoon and Srisorn (2010) and Wyplosz (2001) and (2006).

strong versions of endogenous OCA and neofunctionalist spillover theory. In Section 6 we discuss how the factors emphasized in the previous sections help explain the prolonged series of inadequate policy responses to the crisis. Section 7 offers brief concluding remarks.

2. The Interactions among Time Inconsistency Problems, Faulty Mental Models, and Cognitive Biases

Over recent decades increasing attention has been paid to various limitations to the standard economics textbook assumptions of well informed-unified- rational actor models. While such models are useful for many purposes there are also numerous situations for which they are not appropriate. Efforts to develop models that relax one or more of these assumptions have been developed along a number of lines. The public choice approach stresses the collective action problems that can lead the pursuit of individual interests to generate deviations from optimal aggregate efficiency. This approach explains how free riding problems and rational ignorance on the part of citizens allows small well organized groups to often gain political outcomes that hurt the interests of a majority of citizens. Such possibilities have also been explored within the context of business organizations where the difficulties of aligning incentive structures for agents with the interests of principals are highlighted. These approaches highlight problems of aggregation and the importance of being careful about the choice of units of analysis such as treating countries as single actors that efficiently internalize domestic collective action problems[6]. During the euro crisis the behavior of European Union governments has deviated greatly from those of a unified rational actor.

A second approach has focused on problems of limited information and human cognitive abilities. As is stressed in the literature on the economics of information often much of the information needed to make efficient decisions is not available or available only at costs that exceed the benefits. Furthermore even if all potentially relevant information were available, humans would be unable to effectively process all of it. The human brain is a wonderful device but there are limits to its capabilities. Such thinking led Herbert Simon to his famous concept of bounded rationality and analysis of the advantages of rules of thumb.

In recent work Willett (2012) has stressed that decisions are based not only on factual or estimated information but also the mental models through which the information is processed and that there can be great uncertainty about the correct model. For example new classical and Keynesian economists will often expect quite different effects from particular macroeconomic developments and thus make quite different policy recommendations. In this paper we use the term mental models to denote the process through which individuals convert their beliefs or expectations about the facts into conclusions about expected effects. We prefer this term to theories since it suggests that the views through which information is processed are often far from fully articulated. The literature on international political economy often uses the terms ideas or ideologies.

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[6] Of course for some purposes this is a quite useful simplifying assumption but definitely not for issues such as trade policy.

These typically include both positive and normative aspects. In our usage mental models are limited to positive analysis as distinct from normative objectives or preferences.[7]

Of course there is only a fuzzy dividing line between an actor's genuine belief in faulty models and their self-interested advocacy of ones that they know are questionable but that further their interests. Not only is it almost impossible for an external observer to make this distinction with confidence, but the actors themselves may not be aware of the dividing line in their own minds between wishful thinking and deliberate falsehood. A recent example concerns the arguments of the German government and European Commission that fiscal contraction would be expansionary for the crisis countries in contradiction to the mainstream argument that in the middle of a recession fiscal contraction would further reduce economic output and employment. The expansionary-contraction views are logically consistent with the possibilities that these assertions were rationally based on a false model[8] but also that they resulted from wishful thinking or were a cynical effort to generate misinformation in order to justify favored policies. The reasons likely vary across different advocates.

One suspects that there were strong elements of the latter two possibilities in the European Commission's response to the announcement in August 2013 that with a positive growth rate from April to June the euro zone in aggregate had ended its eighteen-months-long second recession. Although aggregate unemployment in the euro zone was at an all-time high above 12 percent, with rates in Greece and Spain exceeding twenty

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[7] For further discussion of these terms and distinctions see the analysis and references in Roy, Denzau, and Willett (2006).

[8] It should be noted that there have been cases where fiscal austerity has proven to be expansionary in the short run, but these occurred under conditions quite different from those of the euro crisis countries, such as small open economies under flexible exchange rates.

percent, Olli Rehn, The Commissioner for Economic Affairs argued that, "The data... supports (sic), in my view, the fundamentals of our policy response, a policy where building a stability culture and pursuing structural reforms supportive of growth and jobs go hand in hand." In other words, the belief that fiscal austerity would be expansionary had not been dented despite the research and experience that showed the opposite. Critics of strong fiscal tightening during recession never argued that economic growth would never be restored, only that the recessions would be made longer and deeper.

Continued belief despite contrary evidence could be due to confirmation bias that leads one to look only for evidence that is consistent with one's prior views and discount contradictory evidence. This is one of the cognitive biases that will be discussed below. The possibility of politically motivated misleading statements, however, is suggested by Commissioner Rehn's response to new IMF studies showing that the effects of fiscal austerity on growth had been even more negative than IMF officials had initially thought.[9] His response was that the studies were not helpful. In terms of supporting his views this was certainly so.

The discussion so far has focused primarily on difficulties involved with rational decision-making. The literature on behavioral and neuroeconomics goes beyond this to draw on the literature on cognitive psychology and neuroscience to point to various potential biases in agents' decision making.[10] There have always been those who

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[9] For the latest IMF research on this topic see Eyraud and Weber (2013)

[10] For discussions of the research on decision making biases in the literature from cognitive psychology and neuroscience and their application in the newly emerging field of behavioral and neuroeconomics and finance see Akerlof and Shiller (2009), Burnham (2005), Kahneman (2011), Montier (2002), Peterson (2007), Sharot(2011), Shefrin (2000), Shull (2012), Thaler and Sunstein (2008), and Zweig (2007). Neuroscience and its application by economists has shown how the wiring of our brains contributes to a number of the biases in economic and financial decision making that are frequently observed.

challenged the standard economics assumption of rationality, but recent research gives a much stronger basis for analyzing a limited set of potential biases that can have important impacts on economic and financial decision-making. While there has been a tendency by economists to think of discussions of biases as being unscientific it is now neuroscience that points to ways in which our brains are wired that leads to some of these behaviors. Furthermore arguments have been made that some of these biases such as over optimism were likely evolutionarily successful strategies that have become maladaptive in the modern world of complicated economic and financial systems.[11]

In the following sections we discuss how such biases appear to have influenced political decision making concerning the euro as well as contributed to the crisis by financing rather than disciplining emerging disequilibria in both the public finances and real estate markets of several euro zone countries' financial market behavior. We pay particular attention to issues of over optimism, the quest for certainty (ambiguity avoidance), confirmation bias, wishful thinking, and excessive focus on the short run.

The informational and human cognitive limitations noted above make it perfectly rational for actors to adopt mental models that do not include all aspects of a situation. One just cannot consider everything. Where cognitive biases begin to play a role is where excessive faith is placed on particular theories that are much more simplified than the human brain is capable of handling (ambiguity aversion), where normative desires dictate, or heavily influence, positive analysis (an aspect of wishful thinking), and where tendencies to give much more weight to developments that are consistent with one's prior beliefs than to ones which conflict (confirmation bias).

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[11] See Shalot (2011).

In contrast, a rational or wise decision makers would recognize the possibility that in the complex world one should not be completely confident that one's mental model is fully correct. They would pay attention to evidence that conflicts with their initial views and in the face of sufficient evidence be willing to revise their views. They would also attempt to guard as much as possible from having desires about normative issues color their positive analysis, and avoid being surrounded only by "yes men." Sadly the history of the euro provides numerous examples of failures by key decision makers on all of these dimensions.

Another key element in many of these faulty, or at least highly questionable, decisions is the problem of time inconsistency where the costs and benefits of decisions do not follow similar time patterns. This has become a standard consideration in the analysis of macroeconomic policies where there is a tendency for quantity adjustments to changes in macroeconomic policies to show up more quickly than changes in prices. As a result policy makers with short time horizons have incentives to over expand the economy since in the short run most of the good effects on output and employment show up before the bad effects of higher inflation, thus leading sometimes to the generation of political business cycles. Likewise contractionary policies frontload the negative effects of lower growth and higher unemployment while the beneficial effects of lower inflation lag behind.

In the face of voters with short time horizons and limited information such behavior can be quite rational for political decision makers, but it relies on voters that are not fully informed and far sighted.[12] And political decision makers may sometimes have

[12] Of course free rider considerations can generate rational ignorance as emphasized in the public choice literature and it is quite rational to weigh the future less heavily than the present. Bias comes in when

such biases themselves, especially where the short run benefits seem quite clear while potential longer term costs are uncertain. One can always wishfully hope that some new developments will make the problem go away. Recent work by Bird and Willett (2008) and Walter and Willett (2012) discuss how such considerations can lead to a tendency for officials to fail to undertake adjustments in exchange rates and/or macroeconomic policies in time to avoid currency crises. The tendency to adopt policies that avoid high short run costs that will have longer-term benefits has played an important role in the failures of officials to publicly acknowledge the magnitudes of problems such as the amount of bad debt on the books of European banks and contributed to inadequate policy responses to the crisis.

3. The Decision to Create the Euro: Questionable Theory and Time Inconsistency

Monetary history has shown that countries are generally loath to give up their independent decision making authority over macroeconomic policy. Thus it is quite amazing that so many European countries were willing to give up totally their monetary sovereignty and a great deal of their fiscal autonomy. How did this development happen? A large part of the explanation for this was the (questionable) view of many of the European leaders that monetary union was essential to keep Europe moving forward in order to maintain the geopolitical benefits from the European project. In other words, the push for creating the euro was not primarily about economics but geopolitics. The push for monetary union came from policy elites with relatively little involvement of the

decision makers discount the future more heavily than is rational. There is considerable dispute about the values of optimal discount rates but we often observe behavior that is consistent only with discount rates that are far higher than any concept of optimal.

general public at the initial stages. While concerns with domestic political costs have been a prime factor in limiting the extent of international macroeconomic policy co-ordination they played only a minor role in the key decisions to create the euro, which were generally made by heads of state.

The fundamental goal of the policy elite who led the broader European project was to avoid the mistakes made after World War I and instead bind Germany more strongly to the rest of Europe to the point that a future war would become unthinkable. The instrument for achieving this important goal was economic integration. The belief was that through generating high levels of economic interdependence not only would war prove too difficult to undertake but also that in the process cooperation among European nations would be fostered.

While highly optimistic and idealized, this vision of Europe turned out to be largely correct. The European project became one the most successful examples of social engineering in history. However, with the euro project the process of European integration went too far. Instead of fostering a stronger European identity the euro crisis has generated considerable ill will among many of the leaders and people of the Euro zone nations. This has set back the hopes that more and more citizens within Europe would begin to see themselves as Europeans first and their nationality second.

A major reason for this step too far was a set of faulty or at least questionable views that were widely held among European officials and policy elites. A key element was belief in what has been called the bicycle theory of European progress. Just as a bicycle must keep going forward to remain upright on its own it was widely believed that in the absence of forward progress toward more integration the process would backslide.

This is reflected in the official European goal of ever-greater integration, not just achieving a high level of integration.

By the 1990s economic integration had reached such a high level that the basic geopolitical objective of binding Germany tightly to the rest of Europe had been achieved. From this perspective, while the absolute geopolitical externality from economic integration had been enormous, the marginal gains from further integration would be minimal. However, this view received little if any serious attention by European officials. This was compounded by the failure of many top officials to recognize that monetary integration was fundamentally different from economic integration. With economic integration all nations generally benefit in aggregate, though of course not all individual and groups benefit. Monetary integration, however, requires all member countries to have the same monetary policy and, as is stressed in OCA theory, this may be quite costly in aggregate for some countries. [13]

This consideration received less attention than the politically convenient one that to achieve the full benefits of economic integration a common currency was needed. There is little question that a well-functioning union will help foster greater international trade and investment but the examples of US trade with Canada and Mexico illustrate that to obtain very substantial benefits of economic integration in the form of free trade does not require a common currency. And as we have sadly seen in the current crisis, where a currency area is not functioning well this can have a devastating effect on international trade and investment as well as domestic economies.

[13] To the French government this was not viewed as a cost since they had already given up effective monetary independence by pegging to the German mark. They saw clear political benefits to having French monetary policy run by a European central bank than by the German central bank. The French decision to adopt a hard peg to the D mark was in turn based on the questionable view that exchange rate adjustments would be ineffective for the franc. See Andrews and Willett (1997).

Another important factor was time-inconsistent incentives. Under the plan, the costs of giving up national autonomy over monetary and fiscal policy would be largely delayed for France and Germany, the leaders in the push for the creation of the euro. Thus they appear to have received much less attention by the political leaders than if they had been expected to occur quickly. Thus the leaders could reap large immediate benefits in terms of enhancing their status as statesmen at little immediate cost. For the some of the entrants the situation was more complicated since they did need to bear some upfront costs of adjusting policies to meet the entry criteria such as low inflation and limits on fiscal deficits. Politically such policy adjustments were an easier sell to the public than usual because of their connection with the benefits on joining the euro area which were expected to occur quite quickly, as was indeed the case. The weaker euro countries obtained immediate economic benefits in the form of sharp drops in their interest rates (see chart 1) and greatly eased access to foreign financing.

Another important example of the time inconsistency problem involved deficiencies in the design of the euro institutions, specifically the decision to go ahead with the launch of the euro without tackling the politically much tougher issue of establishing the degree of political union that most independent analysts believed was a necessary condition for the euro regime to work well.[14] The strategy adopted was to get things started and hope that more progress would be made along the way. This is discussed in section 5.

[14] The exact meaning of political union was often left vague, however, as is also often the case in current discussions of the need for fiscal union. Determining what are the minimal aspects of increased political union needed to improve the operation of the euro zone is now a matter of important debate.

4. The Example of Germany's Faulty Mental Model of Potential Problems in the Operation of the Euro Zone [15]

A major part of the grand bargain between France and Germany that was essential for the launch of the euro was that if Germany would agree to give up its beloved currency for the euro, it would be given the lead in designing the institutions of the euro.[16] France also agreed to support the German objective of greater political union to accompany the creation of the euro but with skillful maneuvering managed to get agreement that this would be indefinitely delayed until after the euro was launched. After the launch little progress was made on this front.

In the German view the potential creation of economic and financial problems in the operation of the Euro zone would come from misbehavior by governments. They saw two essential requirements for a euro zone to operate in a manner that would not damage the German economy: control of inflation and the avoidance of fiscal excesses by other members of the currency area. The concerns about fiscal deficits reflected in part fears that large deficits would put pressures on the European Central Bank for excessive monetary accommodation.

Germany succeeded in designing and having created institutions to deal with both of these problems. On the inflation front, the ECB has been extremely successful (indeed some argue that it has been too successful). Germany was also successful in obtaining agreement on the Growth and Stability Pact designed to keep fiscal deficits in check, but as will be discussed below, the implementation of the pact was a substantial failure.

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[15] We should note that our frequent criticisms of German mental models should not be taken to suggest that the Germans were more inclined to faulty models than others and of course not all Germans would hold the views described here as the German view.

[16] The potential threat of a veto of German reunification by France was likely another factor in inducing Germany to agree to the creation of the euro.

Equally important for the current problems of the euro was the failure of German and other euro zone officials to anticipate that serious disequilibria could emerge from other sources.

Of course, avoiding major fiscal excesses is an important condition for a stable currency area and Greece violated this requirement by a massive margin. One reason that Greece was able to run such large fiscal deficits before the outbreak of its crisis was the presentation of false data by Greek officials. But false or misleading data was not the only cause of the ineffectiveness of the Growth and Stability Pact.

While some criticized these limitations for excessively constraining the ability of countries to adopt national stabilization policies in the face of their loss of monetary autonomy, the bigger problem proved to be the substantial degree of ineffectiveness of the agreement once it was violated by France and Germany. This illustrates the limited effectiveness of international agreements when they run into serious conflicts with the interests of major powers. Had France and Germany remained in compliance there would have been at least some possibility that sufficient pressure would have been placed on Greece to have limited substantially the buildup of their fiscal problems.

Fiscal deficits, however, proved to be far from the only major problem encountered in the operation of the euro zone. Fiscal laxity was certainly not a problem with Ireland which was not running a fiscal deficit before the crisis. Indeed its frequent surpluses were the envy of much of the euro zone. Its problem, as in the United States, was primarily a real estate bubble financed by heavy borrowing. Ireland's huge fiscal deficit during the crisis has come largely from the government's support of the financial sector and from the recession. Prior to the crisis it had a strong budget situation.

Portugal and Spain fall between the Greek and Irish cases. Each had a variety of problems with the most striking for Spain being its huge real estate bubble. For Portugal the greatest problem was its structural rigidities that led to the lowest growth rate in the euro zone and a substantial loss of competitiveness through wage increases that far exceeded the growth of productivity. Greece suffered from the same problem. The result was huge current account deficits. As will be discussed in the next section rather than the euro being the anticipated force for convergence, divergence predominated.

German officials apparently assumed that low inflation and the absence of fiscal excesses would be sufficient to assure that the private sector would operate in a stabilizing manner. The discipline of fixed exchange rates and efficient financial markets would keep serious disequilibria from emerging from the private sector.[17] To limit moral hazard and thus give appropriate incentives to both the public and private sectors no provision was made for a lender of last resort function for the European Central Bank or for provision of government financial assistance to countries that ran into difficulties. Nor were provisions made for systematic surveillance of private sector imbalances. Financial regulation was kept entirely at the national level.

In part the failure to make such provisions for the euro zone reflected a desire to avoid the political difficulties that would have been generated by efforts to get collective agreement on such issues. Also important, however, was excessive faith in the quality of

[17] The idea that financial markets would provide strong discipline over public and private financial behavior, perhaps most famously held by Alan Greenspan, was an important contributor to the lack of sufficient financial oversight by regulators that facilitated the build-up to the US subprime crisis. For a more general analysis of the role of financial markets in providing and failing to provide discipline over macroeconomic policies see Willett, Chiu and Walter (forthcoming).

regulations and the risk management strategies of the financial sector.[18] Both of these assumptions proved tragically far off the market. Rather than the market providing pressures for economic convergence between the countries in balance of payments surplus and deficit within the euro zone, the euphoria surrounding the creation of the euro led to sharp reductions in perceptions of financial markets of the risks of lending to the weaker euro zone economies. As shown in chart 1 this led to a substantial fall in the costs of borrowing by these countries and generated huge net inflows of money to the weaker economies.[19]

A spree of ill-considered lending and borrowing ended years later in massive amounts of non-performing loans, especially in property markets where speculative booms had turned to busts. The financing of budget deficits was made easier and the euro euphoria also contributed to wage and price increases in a number of countries that exceeded productivity increases. This in turn led to substantial current account deficits, financed largely by private capital inflows.[20]

Once the crisis in Greece started lenders began to radically reassess the risks of their financial positions in the weak economies and large capital inflows turned into large outflows, the type of "sudden stop" that has previously been associated primarily with the

[18] For discussion of the problems with the standard approaches to risk management and their use by financial regulators see Bookstaber (2007), Fox (2009), Moynihan (2011), Rebonato (2007), Triana (2009), and Willett (2012).

[19] Despite the official no bailout clause in the Euro Treaty, many lenders appear to have believed that no national government in the euro zone would be allowed to default. It is difficult to determine what proportion of the easy financing was due to this rational moral hazard belief versus imperfections in the efficiency of the operation of the financial markets such as over optimism and narrow focus.

[20] This aspect of the build up to the crisis is emphasized in Wihlborg et al. (2010).

emerging market countries. These private sector difficulties thus contributed greatly to the worsening of the fiscal situation in Greece, as well as Ireland, Portugal, and Spain.

The mathematically sophisticated risk management techniques that were widely believed to eliminate the possibility of such financial market failures were themselves proved to be colossal failures due to their excessive reliance on backwards looking statistical measures and insufficient attention to forward looking economic analysis.[21] Nor did the oversight by national financial regulators deal effectively with this problem of excessive lending and borrowing. We cannot go here into detailed analysis of the causes of the regulatory failures that contributed so much to creation of the crisis. Let us just state that detailed analysis of these failures should be high on the agenda of economic and financial officials across the globe.[22] In summary, the result of the much too narrow view of the euro's founders about the possible sources of disequilibria that could emerge was a major contributor to the development of the euro crisis. That crises can be generated by a wide variety of factors is a key lesson for analysts and policymakers across the globe.

Another important example of mental models that turned out to be highly inaccurate was the belief that the creation of the euro would establish dynamics that would generate substantial reforms that would substantially improve the operation of the adjustment process within the euro zone. We turn to this topic in the following section.

[21] For discussion of these problems, see the analysis and references in Willett (2012).
[22] For recent discussions of regulatory failures and proposals for improvement see Barth, Caprio and Levine (2012), Kaufman (2009), Brunnermeier et al. (2009), Levinson (2010) and Persuad (2010).

5. The Dangers of Over Optimism about Endogenous OCA and Neofunctionalist Spillover Theory

One of the clearest lessons of the euro crisis is that one should not count on endogenous responses to lead to substantial increases in cooperation on economic policy issues among members of the area, nor in substantial increases in the flexibility of domestic economies. It has sometimes been argued that to create a successful currency union all that is needed is the political will to do so. In this argument, preconditions are not important for assuring that the currency union will work well. The creation of the currency will itself generate a dynamic process that will generate needed economic adjustments and the creation of the institutions necessary for the currency area to work well.

Such views were sometimes offered in the context of advocacy for the creation of a common Asian currency with the success of the euro zone pointed to as an example. Indeed the euro zone was widely judged an enormous success for a number of years. But while the euro was widely expected to promote convergence among the member countries, for a number of countries it promoted more divergence instead.[23]

It is ironic that it was in the strongest country, Germany, in which the endogenous responses to the disciplinary effects of the euro were the strongest and in the periphery where they were weakest. Wages and prices in countries such as Greece and Portugal increased by far more than could be explained by differences in productivity growth. The real exchange rates of many of the periphery countries rose substantially against France and Germany. The resulting losses in competitiveness for these countries were reflected

[23] See the analysis and references in Wihlborg et al. (2010) and Willett and Wihlborg (2013).

in substantial current account deficits. For Greece the current account deficit as a percent of GDP rose from an already substantial 7.8 when the euro was created to 14.7 in 2008. While the most dramatic worsening of the current account in the euro zone, it was far from the only one. Spain's current account deficit went from 4 percent at the euro creation to 9.6 percent in 2008 while Ireland went from balance to a deficit of 5.6 percent and Italy from 0.5 to 3.1%. Rather than exerting strong disciplinary pressures on the deficit countries, however, these current account deficits were financed by large inflows of private capital, much of it coming from the surplus euro countries. Officials and markets largely failed to detect the economic and financial troubles that were mounting and became clearly apparent when the euro crisis broke out.

The founders of the euro were generally aware that the operation of a common currency would require increases in the flexibility of the member countries' economies in order to be able to respond to imbalances without massive economic disruptions. They were greatly over optimistic, however, that the formation of the currency area would produce reforms that would provide the necessary flexibility in wages and prices, reductions in institutionally imposed rigidities in labor markets, and increases in labor mobility. Such optimism of course reflected in part the time inconsistency and wishful thinking biases already discussed. The benefits of creating the euro were front loaded while the cost of adjust would largely lag behind.

The decision to go ahead with the common currency before all of the major preconditions for it to work well were in place could be legitimized by two types of academia theory, neofunctionalist spillover theory from the international relations literature and endogenous OCA theory from the economics literature.[24] Both argued correctly that for a policy to work well it is the ex post rather than ex ante conditions that are relevant. And both types of theory implied that the formation of a currency area per se would help create the conditions for its successful operation.

At a qualitative level these expectations were certainly correct. Where things went wrong was over-optimism by many euro advocates about how powerful these forces would be. It is not enough that reforms increase the flexibility of economies. These improvements need to be sufficiently large to make the operation of the internal adjustment process operate smoothly. On balance the creation of the euro did lead to increases in the flexibility of most of the euro zone economies, but as noted above, it was in Germany that the most reform took place thus contributing (albeit through virtue) to the growing imbalances within the euro zone. As shown by the massive unemployment that has been generated by the crisis, flexibility did not increase by nearly enough in the deficit countries to allow them to adjust through internal adjustments without enormous economic costs. The belief that what has been called internal devaluation, i.e. falls in domestic wages and prices, would be an effective substitute for the external devaluations that were ruled out by membership in a currency area has proven greatly misplaced.

The basic idea of neofunctionalist spillover theory is that the creation of joint policies in one area would generate the need for greater coordination in other areas, thus

[24] For discussion and references to the literature on endogenous OCA theory and its application to the euro zone, see DeGrauwe (2005), Willett et al (2009), Willett, Permpoon and Wihlborg (2010) and Willett, Wihlborg, and Zhang (2010).
There was also a view from some new classical macroeconomists that there would be little cost to giving up discretionary monetary policy because they did not believe that such policies were effective. Their analysis rested heavily on the assumption that economies had a high degree of wage and price flexibility which has proved to be another faulty mental model in its extreme forms.

creating a dynamic that supports the European Union's mantra of ever increasing integration. The academic literature on this subject has often been fuzzy about exactly how these spillovers would work but the history of the European integration project has frequently demonstrated elements of this dynamic albeit with fits and starts.[25] This idea has a guiding light for many of the European leaders and their advisors.

Less familiar in these policy circles but also supporting the neofunctionalist spillover dynamic is endogenous OCA theory from the economics literature. The basic idea of traditional OCA theory is that there are costs and benefits for joining a currency area versus retaining some degree of flexibility of the exchange rate and that the ratio of these costs and benefits will vary systematically based on such factors as the size and openness of economies, the internal flexibility of economies, and the types of shocks they face. It was widely, although not unanimously, agreed among economic experts that many of the members of the euro zone did not meet the necessary conditions for a currency area to work well for them.[26] Consistent with such OCA analysis it is largely the countries that did not meet these OCA criteria by a wide margin that are now facing crises.

The important contribution of endogenous OCA analysis was to point out that joining a currency union would create conditions that would generate movements in the direction of better meeting the OCA criteria. For example, the fixed exchange rates provided by the currency union would increase international trade and investment among the members. Since the currency union ruled out independent national monetary policies

[25] For discussion on neofunctional spillover theory and its relevance for the history of the European integration project see Haas (1958), Moravscik (1998), O'Neil (1996), Pollack (2001), Sandholtz and Sweet (1998), Waltz (2008) and Ungerer (1997).
[26] Some economists did conclude that a smaller group of the northern members would work well. See, for example, DeGrauwe (2005).

it would increase the economic costs of labor and product markets rigidities. Thus we could expect pressures to reduce these rigidities. What was overlooked by many advocates of this view that such endogenous response would be extremely powerful was the role of special interest policies as a force to block such reforms. In practice these pressures to protect special interests proved to be the more powerful force in many instances.

While optimists saw the reform dynamic taking on a life of its own stimulated by the policy measures undertaken to meet the preconditions for joining the euro zone what dominated in many cases after entry was reform fatigue. It also was not sufficiently recognized that a net movement toward greater flexibility and budget control was not sufficient. The magnitudes of the reforms had to also be sufficient. For many countries this was not the case.[27]

We can distinguish two versions of endogenous OCA and neofunctional spillover theory. The optimistic version sees actors anticipating the need for developing new public and private measures as the result of new institutional arrangements. On this view a fairly smooth process of adjustment is generated. As noted we did see some of this type of behavior in the euro zone, but the amount was far less than needed to avoid crisis. The second version is based on the view that it frequently takes crises to prompt reforms. There is an old adage that European integration has progressed one crisis at a time. On this view the crisis is an opportunity to press forward toward greater banking, fiscal and political union.

[27] There are definitely instances where exchange rate commitments have helped countries follow more disciplined macroeconomic policies. The turnaround of the Mitterrand government in France from over expansionary to highly prudent macroeconomic policies is an important example. See the analysis and references in Andrews and Willett (1997).

In some cases where the costs of the crisis generated are relatively small, this can be as a desirable process for increased integration over time. Where the costs are high, however, such as they have been during the euro crisis, this is a high-risk strategy. It seems doubtful that those who believed that the initial Euro institutions did not need to be complete, envisioned that it would take a crisis of this magnitude to push through many of the needed reforms.[28]

The neofunctionalist view of progress through crises does have some support in recent developments. It certainly helps explain the agreements in principle on greater fiscal and banking sector integration that have been prompted by the crisis. It is far from clear; however, to what extent such further institutional integration will actually be implemented in practice.[29] The establishment of the financial rescue facilities gives a prime example of increased cooperation. There has also been official agreement on establishing a banking union and the stronger fiscal regulations. While agreement on established a banking union was announced with great fanfare and market pressures eased the sense of [30] urgency felt by many officials began to wane. Once the details of implementation began to be discussed the general agreement on the need for speedy reform rather quickly fell apart, with Germany being widely perceived as wanting only a weak version of banking union without a real Euro zone wide resolution authority In

[28] To the extent that such costs were anticipated this would add a new dimension to the time path of the effects of initiating the euro, first benefits then costs and then benefits again.

[29] For example the focus of the official discussions on banking union has been on establishing a common regulator for the major banks but with no provision for a resolution authority with common funding. Again the official strategy has been to agree on the easiest, but typically less important, things first and postpone the more important actions where agreement would be more difficult.

[30] This presents a classic case of time inconsistency where the benefits of policy announcements in calming markets come quickly while the political costs of actual implementation come later. Of course as will be discussed in the following section, failures to carry through on such announcements do eventually begin to carry substantial costs.

many countries the crisis has generated a strong backlash against the euro zone that has constrained what political leaders have actually been able to do. The official strategy has been to agree on the easiest, but typically less important, things first and postpone the more important actions where agreement would be more difficult.

The general principle at work is that where the political and/or economic costs involved are fairly moderate, the various mechanisms highlighted in neofunctional spillover theory are likely to work to promote further progress on integration. Where costs are high, however, and there are substantial differences in view about how to precede the neofunctionalist pressures can generate more political conflict than cooperation and set back the process of increasing integration and policy cooperation.

6. Crisis Management and the Costs of "Kicking the Can down the Road"

Sadly the ineffectiveness of many of the European responses to the euro crisis gives numerous illustrations of things to avoid in crisis management. The repeated failure of governments of both the crisis and strong countries to face up to the magnitudes of the problem facing the euro zone and implement credible plans to deal with these problems has undermined confidence in many of the crisis countries and the euro zone institutions. Ireland is largely an exception. The Irish government's decision to guarantee the debt of Ireland's banking sector was clearly a major mistake ex post and has almost bankrupted the country. Ex ante the decision was understandable because both the banks and their regulators had assured the government that the worst-case losses from the guarantee would be a few billion Euros. Since then the new Irish government has done an excellent job of undertaking the difficult but needed policy actions to restore confidence.

As a result the risk premia on Irish debt has fallen substantially while those in countries like Spain have risen dramatically (albeit with dips as well as rises).

Perhaps even more important than the policy failures in the crisis countries has been the repeated failure of the euro zone institutions to undertake sufficiently forceful actions to generate confidence that the situation was under control. Statements that euro zone governments will do "whatever it takes to save the euro" have progressively lost their ability to calm markets except temporarily as they have been repeatedly followed by actions have been far too timid to calm market fears and the improvements in the market expectations following such announcements has progressively shortened as the euro crisis has continued.[31] As a result some began to question the whole euro project. Loss of confidence in the euro zone institutions likely had as much to do with the substantial increases in the risk premia on Spanish debt than with developments in Spain itself.

The problems of time inconsistency, collective action, and cognitive biases discussed in section 2 go a long way toward explaining the failures of the European policy responses to the crisis. The crisis responses displayed many of the wishful thinking and head in the sand biases that characterize bad decision-making. Credibility is one of the most valuable assets that individuals and institutions can have. Repeated failure to carry through with one's promises is an obvious way to lose credibility. In turn wishful thinking in the form of underestimating the seriousness of problems is one of the quickest ways to being to lose credibility. When this is repeated time after time, confidence in government announcements begins to fade.

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[31] The exception has been the policy of the ECB to flood the financial sector with liquidity. This has had a substantial impact in calming markets and lowering risk premia but by the same token has reduced the pressure on governments to take the types of politically difficult decisions necessary to maintain calm over the longer term. An example has been the failure through 2013 for officials to own up to the magnitude of bad loans on the books of euro zone banks (including those in France and Germany).

At least since the time of Walter Bagehot in the late 1800s it has been clear that the way to deal with an illiquidity based financial panic is to provide adequate liquidity to sound enterprises and to acknowledge and deal differently with the cases where the illiquidity is due to insolvency. Of course, it is not always easy to make this distinction and there is an understandable tendency of officials from governments, central banks, and institutions in crisis to seek to reassure markets that all of the institutions involved are sound in order to reduce panic. While often having an initial calming effect this will sustained only if true or where governments are willing to provide the resources to make up for private sector insolvencies.

In the case of the euro crisis it did not take long for the private markets long to question official pronouncements that effective defaults on any European sovereign debt were unthinkable. In the case of Greece its fiscal problems were far beyond the zone within which reasonable people can disagree about the prospects for debt sustainability. With the persistent failures of the stronger EU governments to commit to sufficient levels of funding to avoid default on Greece's sovereign debt, the credibility of the governments and consequently their ability to positively influence market expectations steadily diminished. For example, the announcement that the bailout fund would be expanded to one trillion euros had considerable initial impact but this effect was soon crushed when it became clear that the euro zone countries planned to do this through turning the fund into what was in effect a collateralized debt obligation to increase leverage without putting in additional funding. The repeated failures of governments to own up to the sizes of the recapitalization needed to make whole their banking systems were equally distressing. Nor did the “rigorous” stress testing of the banks carried out by the European Banking

Authority do much to help confidence since they gave the major Irish banks a clean bill of health shortly before they collapsed.

Delay in facing up to the fundamental causes of financial crises almost invariably prolongs them and multiplies their ultimate costs. Japan in the 1980s provides a classic illustration of this. The implementation of this lesson is understandably difficult for elected officials, but the euro crisis showed that independent monetary and financial officials are not exempt from the bias. The European Central Bank was one of the strongest advocates of denying the possibility of a Greek default.

Another important point illustrated by the disarray of European responses to the crisis is the need to establish in advance a set of institutions and rules which clearly delineate responsibilities for dealing with financial crisis and which do not need to rely on unanimity for action. It is true that crises often make it easier to reach a consensus on actions but the euro crisis has offered many examples where the need for unanimity for many of the policy responses has been a major barrier to timely and effective policy responses.

In Europe the Growth and Stability Pact and the 'no bailout clause' in the Maastricht Treaty, if they had worked, would have been sufficient to avoid the Greek problem of national fiscal excesses. But it was not only with hindsight that it could be seen that there was a substantial possibility that these rules would not be sufficiently effective. Nor were these the only type of problems that might emerge. The failure to provide for lender of last resort operations in the ECB's character has proven to be a major problem.

It is also important to remember the full extent of Bagehot's rule, to lend freely but only to solvent entities. Where fiscal bailouts are at issue to make insolvent entities solvent these should be the responsibilities of governments not central banks. Thus the ECB is entirely correct that there needs to be a stronger commitment of funds, not just talk, from the euro zone governments to backstop the solvency of euro zone sovereign debt for Bagehot's rule to allow ECB liquidity provision for these countries. The lack of clear delineation of responsibilities combined with the limited willingness of EU governments to provide explicit funding for the European Financial Stability Facility has generated considerable squabbling among European governments and the ECB. This in turn has further undermined market confidence that there will be successful policy responses.

Concern with moral hazard is, of course, quite legitimate, but this is most relevant in developing strategies and institutions to avoid the emergence of serious disequilibrium rather than in the midst of serious crises. In crisis situations it can be quite reasonable to demand policy conditionality in return for funding, but careful attention needs to be given to the political feasibility of implementing the agreed policies by recipient countries.

The longstanding tendency of the IMF to prefer sound-looking plans with low prospects of actual implementation to plans which are less desirable on purely economic grounds but are more likely to be implemented has led to a substantial diminution, albeit not a complete elimination, in the ability of announcements of its policy packages to quiet market concerns. By comparison with the actions of EU governments the IMF still has considerable credibility, but this is against a quite low standard. In the early stages of the euro crisis, the credibility of the IMF declined further as it felt pressured in some instances to help present a united front and go along with positions of the European Commission and European Central Bank with which it did not agree. More recently the IMF has shown willingness to go public with differing opinions in areas such as the realism of assumptions about the manageability of Greek debt and the effects of fiscal austerity on economic growth.

It should not have been a surprise that heads of government in the crisis countries have had frequent failures in implementing many of the policy reforms to which they had agreed. Most measures needed to go through legislatures and the pressures from interest groups and the general public to water down the fiscal tightening and structural reforms has been enormous. Clearly there needed to be some shock therapy to show the seriousness of the situations, but smaller short run fiscal actions combined with more focus on longer run structural reforms in both government budgets and the economy would likely have been a better strategy.[32] It's generally acknowledged that structural reforms to increase the flexibility of the crisis country economies are an essential part of any successful reform strategy but it should be clear that many of the types of such reforms take time to implement, especially in times of high unemployment, and even longer to begin to have substantial effects on increasing rates of economic growth and politically it can be extremely difficult to get such reforms passed by national legislatures. These implementation failures combined with the strong negative short run effects on aggregate demand generated by the financial difficulties and fiscal austerity led to a systematic tendency for the crisis countries' fiscal deficits to fall less than projected in the loan programs and in some cases they actually increased over the first several

[32] Of course the major problem with this strategy is devising ways to credibly commit to such reforms.

years. This reflected in considerable part the low and often negative rates of economic growth in these countries. As noted in section 2 the fact that many of these countries returned to modest growth by 2013 does not negate the huge loss of economic output and high unemployment that occurred in the meanwhile.[33]

Just as they often fail to be sufficiently skeptical in good times, markets sometimes become too pessimistic during crisis.[34] But despite the frequent official allegations of irrational pessimism, in our judgment the financial markets have proven to be much more accurate analysts of the situation than have most officials. Market fears certainly at times feed on themselves but it is an exaggeration to argue that during the crisis markets have lost the ability to discriminate. A prime example is Ireland, which has adopted much more responsible policy responses than the other crisis countries, at least after its ill-advised assumption of the banks' bad debts. As a result the interest rates on its sovereign debt have fallen from their peaks by roughly one half while those of Greece have continued to skyrocket. One implication of this is that strategies of blaming the markets and policies to suspend their operations during crisis such as bans on short selling and the issuance of credit default swaps are likely to be counterproductive.

A strong case can be made that if euro zone governments had rather quickly taken strong policy actions to deal with the Greek crisis, the worst stages of the euro crisis would be largely over by now and at a cost far lower than has been incurred.

[33] It should be acknowledged that the recessions felt in the euro zone did not reflect only fiscal austerity. Recoveries from financial crises are typically quite sluggish.

[34] They may also have excessive swings from pessimism to optimism and back again. There has certainly been considerable volatility of interest rates in the crisis countries. Much of this, however, is due to changing outlooks for policies and economic growth,

7. Concluding Comments

Ours has been a sad tale of monumental policy failures. It shows once again the importance of the old adage, look before you leap. It documents a number of the types of biases that can lead to disastrous policy decisions such as over optimism, myopia, excessive faith in particular mental models, and confirmation bias.

It also gives a potent example of path dependence. Were the euro not already created, there is little chance that proposals for a common European currency would receive any serious attention today. That does not mean, however, that the odds of a breakup on euro zone are very high. While political disagreements among the euro zone countries abound, the basic commitments to the European project remain substantial and to many of the member countries the euro has become a symbol of the broader European project. Furthermore the economic as well as political cost of exits would be enormous in the short run.[35] Just as time inconsistency in the stream of costs and benefits generated some of the incentives for creating the euro, the front loaded costs of exit makes this an extremely unattractive action. More likely in the view of many analysts is a prolonged period of partial reforms in both domestic economies and euro zone institutions combined with a long period of sub-par economic performance. As noted recently by Prime Minister Rajoy of Spain, while the recession had ended (the Spanish economy had grown by 0.1 percent), the crisis had not.

There is a bright side to our analysis, however. While difficult, it is possible for humans to learn from mistakes, even those made by others. Once aware of such biases

[35] See, for example, Eichengreen (2007).

humans do have the capacity to develop strategies to overcome them, at least partially. The euro crisis gives us many such examples from which we can learn.

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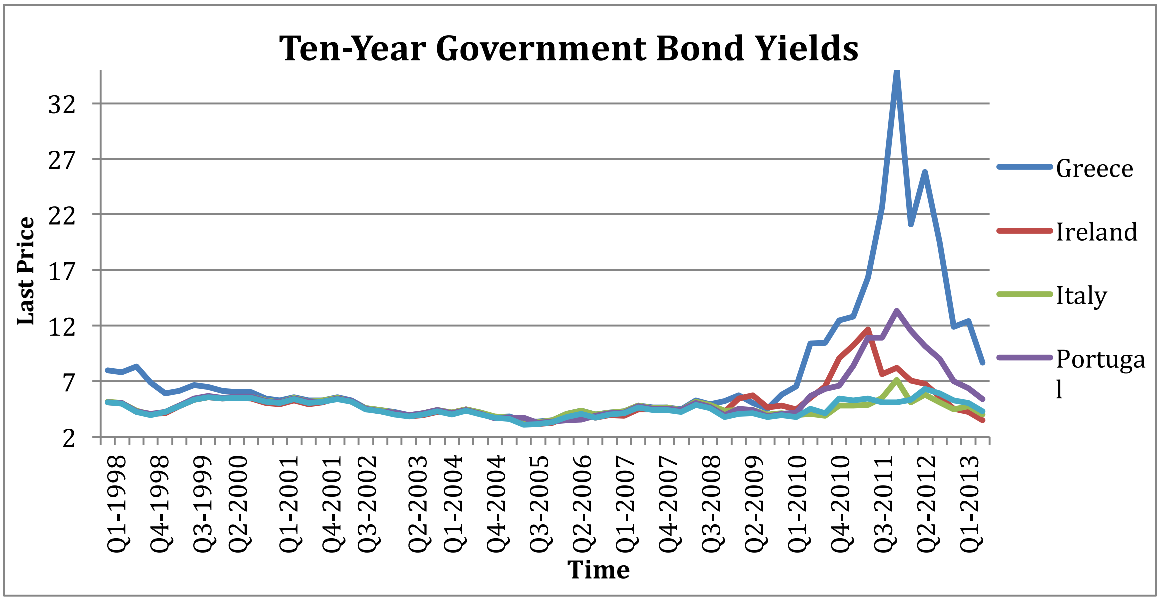
Chart 1 : Color version



Source: Bloomberg

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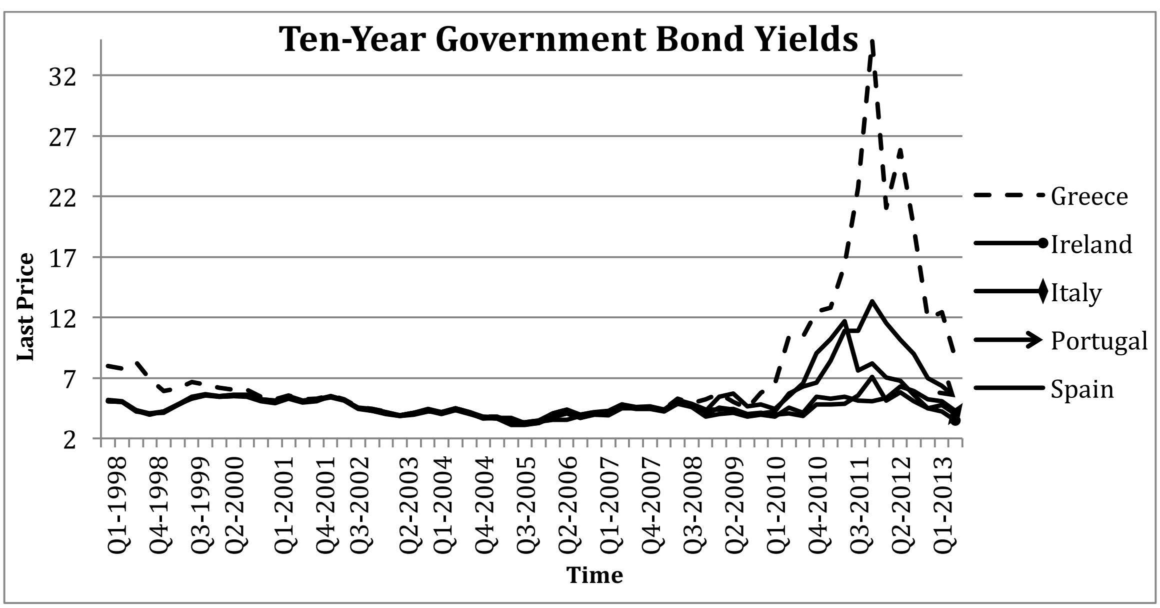

Source: Bloomberg