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Political Credit Cycles: The Case of the Eurozone

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Before the eurozone came into existence on January 1, 1999, the conventional wisdom was that it would cause its least productive members—Portugal, Spain, and Ireland, and, later, Greece—to modernize their economies. In the past, these peripheral European countries had used devaluations to recover from adverse business cycle shocks, but without correcting the underlying imbalances of their economies. The arrival of the euro was expected to force a sound fiscal policy, eliminate the bias toward inflation, and encourage widespread structural reforms.

For example, Lucas Papademos, who later became Prime Minister of Greece in 2011 and 2012, but who was Governor of the Central Bank back in 2001, stated at a conference to mark Greece's entry to the euro:

> After entry into the euro area, the Bank of Greece will be implementing the single monetary policy decided by the Governing Council of the European Central Bank and it will certainly be impossible to improve the economy's international competitiveness by changing the exchange rate of our new currency, the euro. The objectives of higher employment and output growth will

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> therefore have to be pursued through structural reforms and fiscal measures aimed at enhancing international competitiveness by increasing productivity, improving the quality of Greek goods and services and securing price stability (Papademos 2001, p. xxxvii).

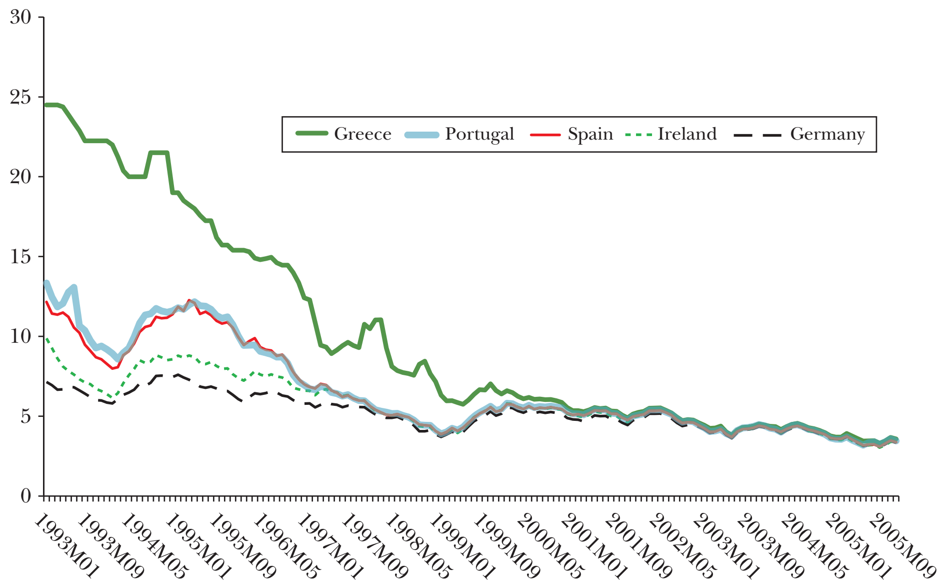
A number of academic authors made similar predictions. For instance, Bentolila and Saint-Paul (2000) wrote: "Indeed the conventional wisdom is that EMU [economic and monetary union] will eventually remove some barriers to reform." Bean (1998) argued that, once monetary and fiscal policies were out of the hands of governments, they would have no alternative but to carry out reforms.

The elimination of exchange rate risk, an accommodative monetary policy, and the worldwide ease in financial conditions resulted in a large drop in interest rates and a rush of financing into the peripheral countries, which traditionally had been deprived of capital. Figure 1 shows the convergence in interest rates, which resulted in much lower interest rates for Ireland, Greece, Spain, and Portugal—indeed, they became able to borrow at German-level interest rates. This paper argues that, as the euro facilitated large flows of capital and a financial bubble in peripheral countries, economic reforms were abandoned, institutions deteriorated, the response to the credit bubble was delayed, and the growth prospects of these countries declined.[1]

In the next section, we explore the two main channels through which these large inflows of capital led to the abandonment of economic reforms. First, these capital inflows relaxed the economic constraints under which agents were acting, thus reducing the pressure for reforms. Second, they made it harder for principals to extract signals about who was performing well or poorly. When all banks are delivering great profits, all managers look competent; when all countries are delivering the public goods demanded by voters, all governments look efficient. As a result, bad agents are not fired, incompetent managers keep their jobs, and inefficient governments are reelected. The efforts to reform key institutions that burden long-run growth, such as rigid labor markets, monopolized product markets, failed educational systems, or hugely distortionary tax systems plagued by tax evasion, were abandoned or even reversed. It is often argued that the inflow of capital to the peripheral countries led to a number of difficulties, such as a debt overhang from excessive borrowing. But in our view, the reform reversal and institutional deterioration suffered by these countries are likely to have the largest negative consequences for growth.

[1] Although there are alternative explanations for the euro crisis, the view that the credit bubble itself is the source of the disturbance is hard to counter. Lane and McQuade (2012) report a strong correlation between net debt flows and domestic credit: the ability of banks to raise external finance was crucial in allowing lending to increase faster than deposits, helping to finance construction booms and public debt. Similarly, Lane (2012) documents how the nontraded sector expanded strongly in the deficit countries, such as Greece, Spain, and Ireland, while it contracted in surplus countries, such as Germany. Our reading of the evidence is thus that the causality mainly runs from the credit bubble to the real changes and not in the opposite direction.

Figure 1
Convergence in Yield for Government Bonds
(10 year yields in percent; monthly from 1993M01 to 2005M12)



Source: Eurostat.

We discuss how these dynamics played out in distinctive ways in five specific countries. The first four countries—Spain, Ireland, Greece, and Portugal—are the four countries with some bailout programs from the European Union as of early 2013. In these countries, instead of the euro leading to a modernization of peripheral Europe, it became the sedative against any reform. While we believe that similar dynamics operate in other countries, such as Italy and France, we will not explore those examples here. By way of contrast, we then turn to a discussion of Germany, which did not enjoy a loosening of its financing conditions as a result of the euro. Faced with a limited margin of maneuver and a stagnant economy, Germany chose the path of structural reforms, and as a result, the underlying divergence in economic policies and institutions between Germany and the other four countries discussed here increased, rather than diminished, as a result of the dynamics induced by the euro.

The Political Economy of Reforms, Institutions, and Monetary Unions

The euro project had four goals (see James, 2012, for a historical narrative): 1) to build a unified European identity; 2) to eliminate nominal exchange rate fluctuations and the imbalances that those could create (and in particular, to channel the export dynamism that Germany had displayed since the 1960s); 3) to create a monetary authority isolated from political pressures; and 4) to broaden support for structural, supply-side reforms to improve Europe's growth rate. This fourth goal is the main focus of this paper. The main channel through which a monetary union was thought to affect the political economy of reform was by imposing additional constraints on monetary and fiscal policy. In fact, the steep drop in interest rates in the peripheral countries allowed by the euro meant that the budget constraints that these countries faced were loosened, rather than tightened. Moreover, the resulting financial bubble fueled the deterioration of governance and of the institutional arrangements on the euro periphery. Because of this deterioration, the euro may have led to a persistently negative impact on those peripheral countries.

How does an irrevocably fixed exchange rate regime affect the political economy of reform? How does financial integration, and the ensuing credit boom, alter this logic? And how persistent are these effects?

The Arguments 15 Years Ago: Reforms under Fixed Exchange Rates

The debate on the euro typically focused on how the new currency would affect trade, macroeconomic performance, and international finance, but it largely ignored the political economy channel, which in retrospect proved to be crucial. The pre-euro literature that touched on these issues (summarized in Bean 1998) presented two political economy reasons why the euro would facilitate structural reforms. First, governments with less ability to use demand-side policies to lower unemployment would have no choice but to use structural reforms as a substitute. Second, the euro would increase the market discipline on government borrowing because investors would be able to compare investment opportunities across countries without concern for exchange rate risk. The 1989 Delors Report that informed the creation of the euro expected this market discipline to be even more formidable than the formal constraints of the Maastricht Treaty.

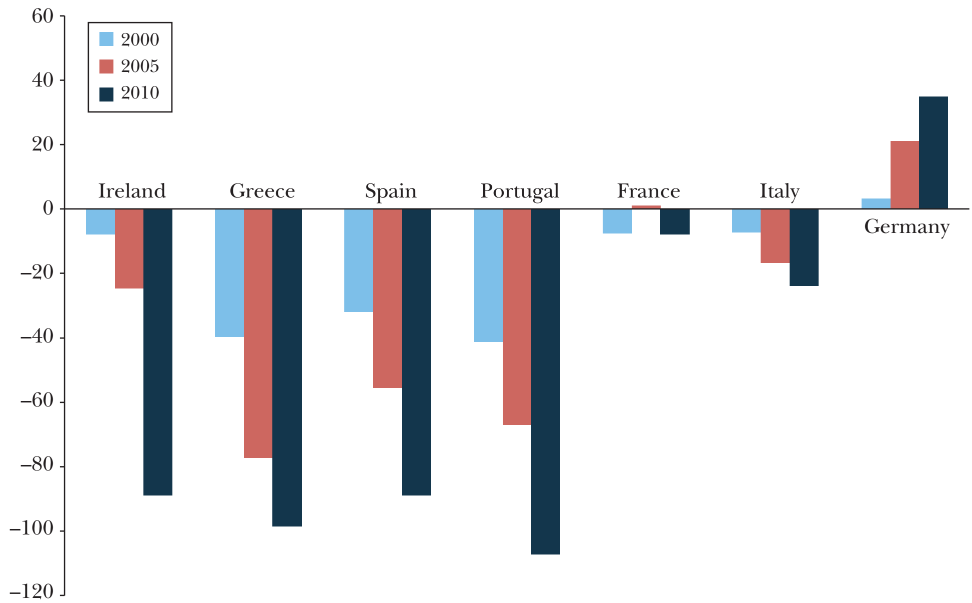
Some researchers did worry that the opposite effect might occur. The absence of an accommodating monetary and fiscal policy would mean that structural reforms would have to be undertaken "without anesthesia," increasing the pain that must be endured by losers and making it less likely that the reforms could be implemented. Chari and Kehoe (2008) also pointed out the danger of "free-riding" in a monetary union. Given that the effects of labor market policies, bank supervision, or fiscal policy of an individual country could negatively affect the welfare of the entire union, the monetary authority could be forced, by the uncoordinated action of its members acting individually, to generate high inflation.

However, during its first years, the euro played a very different role than the ones predicted by much of the literature: instead of tightening government budget constraints, it loosened them—and, thus, gave national governments a tool to avoid painful reforms.

Booms, Reforms, and Information Extraction: Selection and Incentives

The euro caused a gigantic credit inflow to the peripheral countries. As Figure 2 shows, while Ireland, Greece, Spain, and Portugal all started the millennium with

Figure 2
External Indebtedness
(net international investment position as a percentage of GDP)



Source: Eurostat.

sustainable external debt positions, by 2010 all four countries had reached net external debt (the value of the domestic assets owned by foreigners less the value of the assets that nationals owns abroad) close to 100 percent of GDP, through the accumulation of either public (Greece and Portugal) or private (Spain and Ireland) debt. These unprecedented financial booms allowed these countries to expand their public budgets, paying for this either directly through historically cheap debt issuance, as in Greece or Portugal, or through the tax revenue related to the real estate bubble, as in Spain and Ireland.

The consequences for economic reform of such a windfall would not have surprised researchers studying foreign aid. Alesina and Drazen (1991) have argued that the political decision process for economic reform is a war of attrition in which all groups try to delay the reform (with a cost to all) until one group has no more "budget" and gives up, bearing the largest cost. Casella and Eichengreen (1996) show that, in this context, foreign aid will delay concessions and reforms. Svensson (1999), in a game-theoretic model, shows that any windfall (including aid) increases rent-seeking and reduces productive public spending, and he presents empirical evidence (see also Drazen 2000) consistent with the proposition that aid delays reforms. Vamvakidis (2007) extends these arguments to the case of financial booms: he uses a panel of 81 developing and emerging countries to show that increases in external debt are correlated with slowdowns in economic reforms.

We propose here a second channel linking a financial boom to the political economy of reform, unrelated to the "tightness" of the budget constraints: through its effect on the ability of principals to extract performance information on both financial institutions and governmental agencies.[2] It is hard to obtain good signals of performance in a bubble. As Warren Buffet famously put it, "You never know who's swimming naked until the tide goes out." During a bubble, accountability is lost. A manager of a savings bank (a *caja*) in Spain, or of a Greek pension fund, can make bad decisions without negative short-run consequences, because rising asset prices hide their mistakes. Managers and politicians understand that, thanks to the bubble, they can extract more rents without fear of punishment. Consequently, governance deteriorates and weak institutions become weaker.

To understand this mechanism, one can view the quality of governance as a stock of intangible capital. Voters, shareholders, lenders, and other interested parties invest in this stock of governance capital when they imperfectly observe a sequence of actions by the agent and a sequence of outcomes and then infer how good the agent is. Without such investment, the stock of governance depreciates. Governance can be thought of as a stock because it has a persistent effect. For example, bad decisions lead to more bad decisions: naming someone to a bank board without background in banking but who is politically well-connected leads to persistent low governance as he stuffs the board with like-minded individuals more interested in repaying the favor than in monitoring the bank's financial statements.

In this context, a financial boom makes signal extraction harder because all observed outcomes are positive. This increased difficulty of signal extraction has negative consequences for selection as bad agents are not fired. When a crisis hits and there is an acute need for quality leadership, it is less likely to be available. Negative consequences for incentives also arise. When there is a lower probability of underperformance being detected, agents exert less effort.

There are three additional factors that will amplify these mechanisms. First, when downside risk is perceived as being capped by quasi–sovereign-guarantees by the other member states of the monetary union, both on states (Greece and Portugal) and on banks or savings institutions (Spain and Ireland), voters, shareholders, and investors worry less about losses and decrease their investment in monitoring. Second, during the boom times, agents have considerable discretion over the timing of payoffs and can choose to generate large positive payoffs up front and postpone the negative ones. For instance, bank managers can issue highly risky loans that deliver high yields in the short run and that will only become nonperforming years later. Politicians can implement popular spending programs that, while initially cheap, have costs that will escalate over time. Third, signal extraction may be harder when economic activity is concentrated in real estate or finance, rather than in manufacturing, because measuring the fundamentals of output and productivity is harder in both of these fields. Finally, behavioral biases

[2] In a working paper, we present a fuller description of the basic equations of such a model and of the underlying mechanisms (Fernández-Villaverde, Garicano, and Santos 2013).

also contribute to the difficulty in providing appropriate incentives during booms. Agents observe positive outcomes and become overconfident about their abilities and more likely to overreach.

In short, booms cause the quality of the available signals of performance to deteriorate for a number of reasons—statistical, strategic, and behavioral—and, as a result, governance deteriorates as well. Our next step is to argue how this deterioration makes the effects of a negative macroeconomic shock more persistent.

Persistence of the Effects of Bubbles on Governance and Performance: Causes and Channels

It is not immediately obvious why a country's ability to borrow at low nominal interest rates would lead to persistently lower growth rates. But here are four possible reasons.

First, governments that can borrow freely are more likely to waste resources on investments such as airports in the middle of nowhere. Some classic examples are the grandiose investments of oil producers in the 1970s (Gelb 1988). These unproductive expenditures create persistently lower growth since they involve multiyear commitments that must be funded through future distortionary taxation.

Second, countries with easy access to capital suffer a variant of the "Dutch disease" (Sachs and Warner 1995). The credit bubble induces relative price changes that shift the allocation of physical and human capital toward activities such as construction investment and away from the production of tradable goods. While some of the physical inputs can be moved back to the tradable goods sector after the bubble explodes, others are sector-specific and have little scrap value. Human capital investments (or the lack thereof) are sticky, too. In the European periphery, a large part of the work force is simply too poorly prepared to function in a knowledge economy.

Third, the literature on financial frictions has argued that the recovery from financial crisis is inherently slow because agents suffer from a debt overhang in which all sectors of the economy need to deleverage (Bernanke, Gertler, and Gilchrist 1999; Reinhart and Rogoff 2009).

Fourth, a bubble can lead, as we argued above, to a deterioration in economic policy and institutions so that the political economy of finance booms itself becomes a drag on recovery. Debt buys time and can be used to postpone reforms. Low-quality agents are in place throughout the economy, and they will employ every trick imaginable to stay in place (after all, for some of them, staying in power may be the only realistic alternative to a prison term). When politicians dismantle the human capital of a central bank to better make it a servant of their own interests, it takes years to rebuild the institution. Similarly, bad management at the top of a firm damages the quality of middle management.

Moreover, weakened institutions affect the political-economic equilibrium by strengthening the forces against reform and providing few rewards for those in favor of reform. Normally, a group's political success reflects its economic success: if a group grows, its lobby power will be larger and it will be able to push for institutions favorable to its interests (North, 1990). In a real estate bubble, money flows into the coffers of developers and builders, allowing them to increase their political power. At the same time, the agents in the tradable goods sector have less income and employ fewer workers, reducing their political influence. That is, the bubble creates its own constituency that is only interested in the bubble continuing. And even after the bubble has burst, the constituency is reluctant to accept the required changes in policy.

In the next few sections, we apply this framework to the experiences of Spain, Portugal, Ireland, and Greece and discuss how the relaxation of the credit constraints delayed either the transition to a different path for economic growth or the adoption of reforms. We then argue that the same circumstances that allowed delays in the periphery actually forced reform on a reluctant Germany.

Spain: The Infernal Triangle of Local Governments, Developers, and *Cajas*

The years before the euro were auspicious ones for reform efforts in Spain. Its fiscal position was consolidated, a wave of privatizations created strong multinationals such as Teléfonica, and global, competitive companies such as Inditex (Zara) and Iberdrola emerged. The financial system was strong and well capitalized.

But Spain's real estate bubble ended the reform impulse. Between 1999 and 2007, Spain experienced a period of rapid growth, averaging an annual rate of 3.6 percent. This growth was fostered by the adoption of the euro: real interest rates dropped by 10 percentage points between 1990 and 2005. During this expansion, the grave problems in the Spanish labor market, education system, and institutional design went untouched or worsened. Meager attempts at reforming the sclerotic labor market in 2002 were abandoned, the educational system suffered an increase in the dropout rate, and local governments were infected by the pervasive corruption engendered by the real estate boom (Juan 2011).

The drop in interest rates had a distinctive effect in Spain because Spaniards have historically held a large share of their wealth in real estate: 83 percent of households live in dwellings they own and 80 percent of Spaniards' wealth is invested in real estate, a significantly larger share than in other countries (Bover 2011). Moreover, most mortgages have variable interest rates. Finally, Spain received large immigrant inflows: foreign-born residents went from 2 percent of the Spanish population to 12 percent between 1999 and 2009 (González and Ortega 2009).

During the years of the economic boom, observers noted some disturbing underlying patterns. First, total factor productivity was stagnant: all of Spain's growth between 1995 and 2007 was due to using more labor and capital. Second, external imbalances were rising. Exports of goods and services grew at an annual rate of 8.5 percent from 1995 to 2008, but imports grew at an annual rate of 10.1 percent. The consequent large current account deficits meant that, from 2000 to 2009, Spain required 520 billion euros of external financing (in undiscounted terms). The end result was a severe deterioration of Spain's net international investment position. Third, a real estate boom was apparent: at the peak, 25 percent of all male Spanish workers were employed in construction (Bonhomme and Hospido 2012). Fourth, the real estate boom and bust led to a similar pattern in government revenues. From 1998 to 2007, government revenues from income and value-added taxes rose by about 140 percent; then from 2007 to 2009, they fell by about 25 percent and have remained low since. A large share of this change was due to the spike in housing transactions (Fernández-Villaverde and Rubio-Ramírez 2009). During the revenue boom, Spain's government committed itself to expenditure programs that, given the cyclical nature of the revenue, were not sustainable. Observers and policymakers were aware of these patterns but no credible measures to correct this situation were undertaken.[3]

While some factors like the drop in real interest rates, favorable demographics, and the surge of immigration contributed to the start of the real estate boom in Spain, political economy factors added fuel to the fire with a self-reinforcing triangle of regional governments, developers, and a type of savings banks called *cajas*.

A key aspect of the transition from dictatorship to democracy in Spain was an ambitious decentralization process with the creation of 17 autonomous regions. In 1997, the Spanish Constitutional Court gave regions nearly complete control over zoning, which had before relied on urban development plans approved decades in advance. The new rules adopted in most regions let private developers or landowners present to the city council detailed plans to build a whole area of a township. The township would usually receive payment in terms of lots or cash. Eminent domain clauses could be used to force land owners to sell to the developer at some "fair price." If the city council approved the plan, the developers and landowners were not bound by any previous zoning restriction. With these changes in place, an entrepreneur could make millions of euros developing areas that had never been on the market before, with the approval of only a city council and the signature of a mayor. Widespread corruption followed. Moreover, since the city would also receive "legal" payments from the developer in cash or in lots, land development became an important revenue source for local authorities, which could use the new-found riches to finance public programs.

For well-connected individuals, this path to unprecedented wealth only needed someone to finance the whole operation. The Spanish financial system was divided into two more-or-less equal parts between the nonprofit *cajas* sector and the for-profit bank segment. The *cajas* were originally created to provide

[3] For example, in 2003, Miguel Angel Fernández Ordóñez, the Governor of the Bank of Spain from 2006 to 2012, warned of increasing debt levels and of the lack of productivity growth ("El legado de Rato," *El País*, September 11th 2003). Miguel Sebastián, an economist who became the main economic advisor of Prime Minister Rodríguez Zapatero, wrote numerous op-eds warning of the imbalances building in the Spanish economy. The banking supervision staff of the Bank of Spain took the unprecedented step in 2006 of writing a memo to the minister of finance denouncing the complacency of the then Governor of the Bank of Spain, Jaime Caruana, in regard to the imbalances building in the Spanish financial sector.

local banking services to the middle-class and working population often ignored by traditional banks, and traditionally had had a strong territorial basis and a conservative outlook.

Two key aspects of the regulation of *cajas* changed with the arrival of democracy. First, the control of the *cajas* was transferred to the regions in 1985, opening the door to their capture by local politicians. Second, the *cajas* were allowed to expand territorially outside their original small area of activity. As a result, the *cajas* engaged in a relentless geographic diversification and the number of branches skyrocketed. By January 1, 2008, Spain had almost 25,000 *caja* branches, one for every 1,800 inhabitants. Not surprisingly, over this period the *cajas* were continuously gaining market share versus banks: back in the 1960s, Spain's banks had about 90 percent of the banking market, while the *cajas* had 10 percent; by around 2004, the *cajas* had a larger market share in Spain than the banks. The 1985 law did not clarify the procedure to be followed for the recapitalization of an insolvent *caja*, which turned out to be a fatal flaw when the crisis came and there was considerable uncertainty regarding this matter.

The *cajas* started channeling lending in an indiscriminate manner to real estate developers. Between 1995 and 2005, lending for construction and development went from 8 percent to 29 percent of GDP, and lending to households for housing purchases grew from 17 percent of GDP to 49 percent (Beltrán et al. 2010). This lending boom was accompanied by a boom in construction. The number of housing units built every year went steadily upward from 150,000 in 1995 to 600,000 in 2007. Prices also increased quickly: according to data from the Spanish Ministry of Housing, between 1998 and the peak of the boom in 2008, nominal housing prices increased by 175 percent, compared to a 61.5 percent increase in Spain's consumer price index.

Because the growth in deposits was not enough to cope with the lending boom, the *cajas* resorted to wholesale funding on an unprecedented scale. Because the loans were euro-denominated and against physical collateral (real estate assets), international institutions were able and willing to lend. The growth of this sector was not accompanied by improvements in *cajas*' governance. *Cajas* did not have shareholders: instead, they were governed by a board selected by the regional and local governments, employees, and clients. These boards were the perfect target for takeovers by low-human-capital managers with the right political alliances and who could finance politically motivated projects. Cuñat and Garicano (2009, 2010) show that the human capital of managers in the *cajas* was low and that those *cajas* where human capital was particularly low had the highest amounts of real estate lending and nonperforming loans.

On May 9, 2012, the collapse of Bankia—a banking giant that was the product of the hurried-up merger of Caja Madrid, Bancaja, and several other smaller *cajas* with assets equal to 33 percent of Spanish output—led directly to Spain's request for a bailout from the European Union. The way in which Bankia came to an ignominious end is a vivid story of institutional deterioration triggered by the real estate boom.

Caja Madrid was one of the oldest *cajas*. For the first decade after the passage of the 1985 law discussed earlier, Caja Madrid was run with the consensus of the main political parties of the high-income region of Madrid. Its head, Jaime Terceiro, managed the entity professionally and made Caja Madrid a fierce competitor in the credit market. However, in 1996, the conservative party pooled its votes with those of a trade union and took control of Caja Madrid. Terceiro was replaced by Miguel Blesa, a close friend of the newly elected prime minister.[4] Starting in 1996, Caja Madrid expanded aggressively, not just in real estate but also in strategic segments of corporate Spain. Eventually, as this complex web of politics, finance, and business interests thickened, Blesa was forced to step down by the head of the regional government of Madrid, who unsuccessfully nominated a close political ally with no experience in banking as the head of Caja Madrid. After some infighting, another powerful politician and former IMF managing director, Rodrigo Rato, was appointed. He ran the entity until its nationalization with a board composed entirely of politically connected appointees.

The other half of what was to become Bankia was Bancaja, the main *caja* in the region of Valencia. It was born in 1878 and had stayed local for most of its history. Only around 1997, with the real estate bubble in its incipient stage, did it start a breakneck expansion after the Valencia regional government modified the law in a way that essentially handed control of the *caja* to the local government. In addition this law vested supervisory authority in a local entity, the "Valencian Institute of Finance," which was an arm of the regional government without any supervisory capability at the time. Few anecdotes could illustrate the unhealthy connection between politics and finance better than the fact that the person appointed as president of Bancaja when the real estate bubble got going in earnest was José Luis Olivas—the same politician who, as Valencia's finance minister, drafted the 1997 law regulating the local *cajas* (and who, in the meantime, had also been president of the regional government). Olivas had no experience whatsoever in banking. Bancaja soon became an instrument of the region's political aims in several areas such as housing, energy, telecommunications, and entertainment. Over the next decade, Bancaja would participate in financing all of the major infrastructure projects of the Valencia government, including the Formula 1 in Valencia (at a cost of €244 million), the Castellón Airport (€200 million, although a plane has yet to land there), and Terra Mitica (€300m, an amusement park that entered bankruptcy in 2004). The bursting of the real estate bubble has brought to light numerous corruption scandals in this otherwise wealthy region of Spain.

When problems started in 2009, Caja Madrid and Bancaja were merged into a large systemic institution, Bankia, dominated by the same political interests that had

[4] The agreement between the conservatives (Popular Party or PP) and the trade union (Comisiones Obreras or CC.OO.) was published and openly discussed in the Spanish press. For example, see "El PP modificará la Ley de Cajas de Madrid para cumplir el compromiso con CC.OO." or "CC.OO. y el PP rubrican el acuerdo para que Blesa presida Cajamadrid," *El País*, September 7, 1996.

been running both entities. Two bad *cajas* do not make a good bank, and Bankia was effectively nationalized in the spring of 2012.

Ireland: A Procyclical Fiscal and Regulatory Policy

After a deep recession and huge budget deficits in the late 1970s and early 1980s, Ireland introduced important economic policy reforms in the second half of the 1980s. Also, a consensus emerged among the political parties for reducing budget deficits and tax rates. Reforms in labor market institutions—combined with persistent high unemployment—kept real wage growth below that of Ireland's major trading partners. Strategic sectors of the economy were liberalized, such as air transport (Barrett 1997) and the telecommunication system (Burnham 2003), which at the time was reputed to be the worst in Western Europe. These reforms helped to deliver real annual output growth that averaged more than 6 percent from 1987 to 2000.

However, Ireland's growth relied mostly on an increase in hours worked, while productivity was growing at a rate similar to that of other European countries.[5] In 1989, Ireland had the lowest employment/population ratio in the OECD at 31 percent (Whelan 2010) due to high unemployment and a late baby boom. But by 2000, additional labor as a source of growth was essentially exhausted.

However, real interest rates dropped throughout the 1990s, from roughly 4 percent in the mid 1990s to negative values from 1998 to 2002—that is, for the early years of the euro's existence. Not surprisingly, this led to an increase in valuations and a higher private investment in housing. In the 1990s, Ireland combined a high incidence of owner occupation with the smallest number of dwellings relative to its population in the European Union (Somervile 2007). Thus, the "Celtic Tiger" years started with an abnormally low stock of housing. Construction accelerated, with house completions going from 19,000 in 1990 to 50,000 in 2000 and to 93,000 in 2006. The ratio of house prices to disposable income remained stable until the second half of the 1990s, when it started a growth spurt that would take the ratio from 7 to 12 in less than a decade (Whelan 2010, figure 8). Soon, Ireland was the country with the highest share of housing investment in gross capital formation of any country in the eurozone, and construction became the dominant sector driving growth and employment. By 2007, 13.3 percent of all employment was in the construction sector; for comparison, in the United Kingdom and the United States, that same number never rose above 8 percent. Thus, instead of transitioning from growth based on increased employment to growth based on productivity gains, Ireland instead embarked on a massive speculative cycle in the construction sector.

[5] The measure of productivity growth referred to here controls for the effect of multinationals that book a large fraction of their international profits in Ireland to benefit from low taxation (Honohan and Walsh 2002, figure 13).

In the meantime, rather than seeking to counterbalance the bubble, governmental policy in Ireland accentuated it through a procyclical fiscal policy and regulatory and tax changes that made real estate development even more attractive. We interpret these changes as evidence of a deterioration in institutions and governance.

First, fiscal policy was markedly procyclical: government expenditures in Ireland doubled in real terms between 1995 and 2007. The income tax was cut several times until Ireland reached a stunning income tax and employee contribution average rate of 6.7 percent of gross wage earnings for a single-earning married couple with two children. Ireland already had highly generous tax provisions for owner-occupied housing, being the only OECD country combining a tax deduction for mortgage interest payments with no property tax, capital gains tax, or imputed rent tax (Rae and van de Noord 2006, p. 8). Even so, tax incentives for the real estate sector increased (Honohan 2010). Stamp duties (a sale tax on homes) were lowered in 2001, 2002, 2003, 2005, and 2007, while the ceiling on income tax deductibility of mortgage interest was increased in 2000, 2003, and 2008. Tax concessions were granted for urban renewal, multistory car parks, student accommodations, nursing homes, hotels, and holiday camps. A special incentive tax rate for developers between 2000 and 2007 sought to free up land for development by taxing the proceeds at 20 percent rather than at the higher 42 percent that had prevailed before (Byrne 2012).

Second, several major legislative changes worsened the quality of financial supervision. The 2003 act that established the Central Bank and Financial Services Authority of Ireland (CBFSAI) divided supervisory responsibilities between the newly created Irish Financial Services Regulatory Authority (IFSRA) and the Central Bank of Ireland. This reorganization contributed to the lax banking supervision that characterized this period and which forced the (re)establishment of a single fully integrated regulatory institution in June 2009. Bertie Ahern, Ireland's former prime minister, pointed to this regulatory overhaul as the main culprit in the crisis (Brown 2009).

This new regulatory framework perniciously interacted with a particular development in the Irish banking sector: the emergence of Anglo Irish Bank. In 1999, total assets of Anglo were less than 10 percent of Ireland's GDP; by 2007, total assets were 55 percent of Ireland's GDP, transforming Anglo into a systemic risk for Ireland. This phenomenal expansion was rooted in a business model that emphasized speed in loan approval and a disregard of applicable bank rules. A customer could apply to Anglo for a loan of several million euros for a property development project on a Monday and receive approval by the end of the week (Carswell 2011). Anglo raised funds in international wholesale markets and loaned heavily to a small number of borrowers in the property development sector. Other Irish banks reacted to Anglo by loosening standards. The problems at Anglo Irish were in plain sight for the regulators. However, as documented in the Nyberg Report (Nyberg 2011), neither the management of Anglo Irish nor its Board could recall a meaningful engagement with the regulators on prudential issues. As Whelan (2010) emphasizes, the collapse of the Irish banking system was not related to financial innovations nor to regulatory arbitrage, but to a failure of supervisory oversight over credit concentration risk and fragile funding. It was, simply, low-quality governance (for accounts of the rise and fall of Anglo Irish Bank, see Carswell, 2011; Lyons and Carey, 2011; Nyberg, 2011).

Why the tolerant government policy toward the boom? Given that underlying problems had been diagnosed by international organizations such as the IMF and the OECD and by Irish economists (Honohan and Walsh 2002), why did the government add more fuel to the fire? The Irish political class, confronted with an unpleasant growth slowdown, preferred to delay any corrective actions. From 1997 to 2007, 35 percent of disclosed donations to Fianna Fail—the party in government—were from property developers and the construction industry (Byrne 2012). Adding hotels (9 percent) and banks and insurance companies (5 percent) shows that 49 percent of disclosed donations were from parties that had a direct interest in the real estate bubble. The coalition of interest groups and an electorate demanding easier access to housing was too powerful to resist.

The extraordinarily close relationship between Ireland's bankers, developers, and government was at the heart of the unprecedented decision to provide a blanket government guarantee of all Irish bank debt on September 30, 2008. This policy included *all* existing and new debt and all deposits, including corporate and even interbank deposits, covered bonds, senior debt, and some subordinated debt. Just why and how this decision was made remains shrouded in mystery (Honohan 2010, chap. 8).[6] While this decision was perhaps just a mistake by an exhausted cabinet taking a hard decision at the worst moment, it is true that as Byrne (2012, p. 202) points out, the "[k]ey political decisions were insulated from critical debate because they were executed within a closed and cartelized system which facilitated regulatory capture." In Ireland, the political economy factors helped to foster a policy in which the government bailed out private creditors from their mistakes during the boom and subsequent crisis, with enormous consequences for the welfare of future Irish taxpayers.

Greece: Sustaining the Unsustainable

In the decade after accession to the euro, Greece enjoyed growth rates over 2 percent in every year from 2000 to 2008, peaking at almost 6 percent in the pre-Olympic year of 2003. This growth was based on financial liberalization coupled with membership in the monetary union, strong export growth, and the fiscal stimulus associated with the Olympic Games. Mitsopoulos and Pelagidis (2012) add to these

[6] The rating companies did not see it as an error. For instance, Fitch affirmed the AAA rating on Ireland following the guarantee decision, stating: "This proactive measure should help buttress confidence in the Irish financial system and limit the risks of a deeper and more-prolonged-than necessary recession at a time of unusual stress in global banking markets" (Bloomberg 2008).

factors improvements in the regulation of some segments of the product markets, such as telecommunications (transportation and energy remained noncompetitive).

Yet the imbalances building in the Greek economy were there for all to see. The current account deficit, already at almost 8 percent in 2000, reached 15 percent in 2008 and was still 9.8 percent in 2011. As a result, net external debt rose from 42.7 percent of output in 2000 to 82.5 percent in 2009. This current account deficit was not, as in Ireland and Spain, the counterpart of large inflows of money into the private sector. The entirety of Greece's net external debt is accounted for by the public sector, which by 2009 had debt that exceeded GDP.

Greece's unsustainable situation had been developing since 1980, with yearly average government deficits over 8 percent of output in the 1980s and 1990s and current account deficits of over 10 percent in both the 1990s and the 2000s. In 2004, the Greek electorate gave a strong mandate to the New Democracy party (after 11 years of PASOK rule) to tackle the many problems afflicting the Greek economy, but the results were disappointing at best. In this sense, Greece is the poster child for postponed adjustment. Greece's curse, more than any of the other peripheral countries, was the problem of an unreformed economy. A report on Greek governance in June 2012 by the OECD, an organization that (like other international organizations) tends to pull its punches in public, wrote: "The combination of these factors—a weak Centre of Government, legal formalism, the absence of basic data, the lack of evidence-based policy making and an undeveloped HR [human resources] strategy—has created an environment conducive to rent seeking" (OECD 2011). Mitsopoulos and Pelagidis (2012, p. 131) argue that Greece is a country with almost first-class per capita output but second-class governance, institutions, business environment, and corruption. The evidence of institutional deterioration in Greece is widespread, from the decreasing reliability of government statistics to a drop in the corruption ranking from Transparency International from position number 35 in 2000 to number 78 by 2010.

How can a country in the heart of the European Union, under pressure from a common currency, avoid the most basic reforms? For no country was the arrival of the euro as large a boon as for Greece. In 1994, the interest on the 10-year bond had reached almost 22 percent. By June 2003, the combination of the global lending boom and the perceived disappearance of currency and default risk meant that Greece was paying an unprecedented 3.6 percent.

Although the examples of arrested reforms that followed are many, one of the clearest is the pension system. Greece's pension system was, by 2009, designed to replace 95.7 percent of the final income level, the highest replacement ratio among high-income countries (OECD 2009). Public pension expenditures were 12 percent of GDP and are projected to rise to an incredible 24 percent of GDP by 2050 (compared to a rise from 8 percent of GDP in 2010 to 12 percent of GDP by 2050 in the OECD). Moreover, the system was extremely fragmented, with 236 separate funds in 2003 (O'Donnell and Tinios 2003). Beyond the multiple inefficiencies and duplications this fragmentation caused, it also had a negative effect on labor mobility, as moving jobs often meant losing previous entitlements.

Finally, the pension system was extremely unequal, with large privileges handed to the professions and the public-sector employees. As a result, despite the high spending levels, the poverty risk for pensioners in Greece was 2.3 times larger than for the general population (versus 1.2 times in the European Union as a whole). In short, Greece's pension problem was considerably larger than that in other countries.

Some reforms had taken place in 1992 when the budget was under serious strain, but they did not tackle the long-term imbalances. Then, in the run-up to joining the euro, the government was under pressure to undertake these reforms and in 2001 tried to pass a reform package that had first been proposed in 1958 and was already considered at that time "extremely urgent" (Börsch-Supan and Tinios 2001). This proposal involved hard choices: "The retirement age was to be raised; the required insurance period for a seniority pension increased; the replacement rate reduced to 60 percent of reference earnings; the minimum pension raised but means-tested; and the lower retirement age for mothers of younger children replaced" (Featherstone 2005). However, in the face of massive protests, with the country booming and all sense of urgency gone, the proposals were withdrawn. A new reform package, characterized by creative accounting and little real reform, sailed through Parliament in 2002. Pension and other economic reforms were abandoned and not taken up again until it was too late to avert the crisis.

Portugal: Neither Demand for Reform nor Supply of Reform

After 15 years of economic growth that followed its accession to the European Union, Portugal's economy started to stagnate around 2000. Shockingly, in 2012, Portugal's output was lower than in 2001. For comparison, Spain's output was still nearly 17 percent higher in 2012 than in 2001 and Ireland's output was 19 percent higher. Portugal's total factor productivity fell in every year between 1999 and 2005 (see the KLEMS data set described in O'Mahony and Timmer 2009). The prime suspects for this drop include restrictions to competition in many sectors, the dominant position of large firms in several key industries, the difficulties for foreign management that sought to take over low-productivity Portuguese firms, and a dysfunctional labor market.

Portugal faced major macroeconomic imbalances, too. The headline government budget deficit never fell below 2.9 percent of GDP and the primary balance (government net borrowing or lending) was constantly in deficit, even after controlling for the effects of the business cycle and one-off and temporary adjustments (Marinheiro 2006, updated 2011). Public debt accumulated as a result, from 51.2 percent of output in 2001 to 92.4 percent in 2010. The private sector responded to the stagnant economic outlook by reducing its saving rate and heavily borrowing from abroad to finance current consumption, while investment actually fell as a percentage of national demand. This translated into persistent current account deficits of between 6 to 12 percent of output, an acute deterioration in the real exchange rate, and an increasingly negative net asset position, mostly held by banks that had borrowed abroad to lend to local households.

In short, the behavior of both the public and the private sector was unsustainable in the middle run, a point well-recognized by many economists at the time. However, accession to the euro allowed both the public and the private sector to postpone the day of reckoning. In particular, the euro brought historically low nominal interest rates. For example, the yield on the 10-year government bond fell from 12 percent in 1995 to slightly less than 4 percent by early 2005. Consequently, while government debt as a share of GDP rose by 41 percentage points, interest paid on the debt barely budged: it was 2.9 percent of GDP in 2000 and 3.0 percent of GDP in 2010. The amount of private debt, and the interest payments on that debt, followed a similar pattern. Again, accession to the euro allowed Portugal's political-economic equilibrium to be sustained in the middle run by the large capital inflows from the rest of the world, even if a correction was eventually unavoidable.

There was no push for reform in Portugal because there was no "demand" for it, even less a "supply." On the demand side, a broad coalition that cut across traditional party lines supported the status quo. Large firms were reluctant to accept the liberalization of the markets for goods and services, entrenched managers were unwilling to be replaced by newcomers, inside workers resisted attempts to introduce more efficient labor regulations, and many low-income households benefited from increased social transfers (a rise of 4 points of GDP from 2000 to 2005) that succeeded in reducing Portugal's large income inequality and poverty rates. The inheritance from Portugal's historical pattern of inward development and the constraints created by the sudden change to democracy in 1974 made this coalition especially powerful and limited the scope of a more dynamic export sector that could have supported reforms.[7]

From the supply side, Portugal's parliamentary system created by the 1976 constitution provides little incentive for cooperation among the main political agents and makes decisive reforms difficult to approve. First, Portugal divides executive power between the president and the prime minister to a larger extent than other European countries, thus lacking the virtues of either purer presidential systems, such as France, or parliamentarian systems, such as Germany. As one example of this dysfunction, President Jorge Sampaio called for an early parliamentary election in 2005, an election centered to a large extent on the economic policies that Portugal needed to reactivate its economy, despite the fact that the government at the time held a solid parliamentary majority. Second, the electoral law, based on proportional representation, makes it hard for a single party to win an outright majority and forces coalition governments. Third, the power of the prime

[7] See Bermeo (2002) for the strong support of Portuguese voters for aggressive redistribution policies; Costa, Lains, and Miranda (2011) for a discussion of Portugal's historical pattern of growth; Fishman (2005) for the long-run political-economic consequences of the Revolution of Carnations of 1974; and Torres (2006), for the reluctance of important sectors of Portuguese elites to adopt the euro.

minister has been curtailed by the need to placate widely different constituencies (for example, in the Social Democratic Party ranging from right to center left).

When the economic crisis hit Portugal in 2008, private capital flows largely stopped. Portuguese banks, deeply exposed to sovereign debt of their own government, cut loans to firms, and the feedback loop from lower economic activity into lower tax revenue and higher sovereign risk left Portugal in a deep recession and with a banking sector in urgent need of recapitalization.

Even though exports have increased, the fixed exchange rate has prevented a faster adjustment and the current account still presents a substantial deficit that requires fresh external financing. At the same time, the institutional barriers we identified above, including the lack of a broad coalition supporting reform and the constitutional arrangements, have not been removed.

Germany: Without Financial Bubbles, Reforms Are Possible

In the years after the introduction of the euro, Germany undertook painful reforms of its welfare state. Why did the euro not have the same effect in Germany as in the peripheral countries like Spain, Ireland, Greece, and Portugal—namely, to postpone reforms? The answer is implied by the paths of interest rates shown earlier in Figure 1: neither the euro nor the financial boom changed financial conditions in Germany. For Germany, the euro meant tighter budgetary and fiscal constraints, not looser financial conditions. Absent the leeway provided by a financial boom, politicians had no choice but to act.

A decade ago, Germany was the "sick man" of Europe. The average growth rate in the second half of the 1990s and first years of the euro was barely above 1 percent. Unemployment in Germany stayed stubbornly high and had reached 11 percent in 2005. In addition, Germany was aging more rapidly than countries like Ireland and Spain; in Germany, the share of the population between 15 and 64 years of age peaked in 1987 at slightly above 70 percent and then started a steady decline. The sorry state of the East German economy and the difficulties of unification only added to the challenges (Akerlof, Rose, Yellen, and Hessenius 1991); indeed, while Spain and Ireland were enjoying real estate booms, Germany's housing prices were declining by about 10 percent from 1996 up through 2006.

This mediocre economic performance, the negative demographic trends, and the costs of the reunification shock put the German welfare state under severe strain. Compared with other countries, Germany's labor market policies were characterized by high expenditures and long duration of programs. Since social insurance schemes were essentially paid by employees, a decline in hours worked made the situation dire (Jacobi and Kluve 2007). Germany's unification exacerbated an already problematic state of affairs. Indeed, between 1990 and 1998 social insurance contribution rates for unemployment, health care, and pensions increased from 35.5 percent to 42.1 percent; German unification accounted for about half of that increase (Streeck and Trampusch 2005, p. 176). Even with the rise in contribution rates, additional and growing federal subsidies from general tax revenue were required to finance up to one-quarter of the programs.

German politicians faced severe constraints. Monetary policy was under the control of the European Central Bank, which was establishing its reputation by setting a monetary policy for a newly created euro area and was unwilling to concede to the wishes of German politicians. The political fragmentation associated with German federalism prevented expansionary demand policies (Manow and Seils 2000). Because of the wide coverage of unions, real wage flexibility was limited. Reforms had long been slow in coming (Hassel 2010). In 1997, Chancellor Helmut Kohl introduced reforms aimed at stabilizing contribution rates to social insurance programs by including the use of demographic factors to account for increases in life expectancy, but these measures led to him being voted out of office in 1998, and the changes were reversed. Gerhard Schröder's first term as Chancellor was characterized by policies similar to those of other countries confronted with unsustainable welfare states: that is, a commitment to maintain benefits.

Unpopular reform was the only road left open. As Streeck and Trampusch (2005, p. 181) emphasize, "[h]aving stretched the federal budget to its limits, the measures of 1999 unintentionally forced the government to consider structural reform that went beyond short-term fiscal remedies." Schröder launched the Agenda 2010 program, the core of which was the Hartz I–IV reforms that constitute the greatest overhaul of the German welfare state since World War II. The Hartz reforms came only after much resistance—and a serious corruption scandal that finally forced the issue on the sitting cabinet—and probably cost Schröder the 2005 election (Helms 2007). The reforms changed a core principle of the German welfare state: whereas the system prevailing prior to these reforms was meant to preserve the social status of workers through retraining and public work schemes, the new system emphasized instead quick and sustainable job placement (see Bruttel and Sol, 2006, for the historical evidence on the adoption of "work first" approaches). In particular, job seekers were required to accept any offer of "suitable" work, where the definition of suitable was considerably broadened.

The long-run effects of the Hartz reforms are still being debated (Jacobi and Kluve 2007). But it is undeniable that, for Germany, joining the eurozone did not loosen budget constraints, but it did led to sweeping labor market reforms.

Conclusions

Many observers expected the arrival of the euro to lead to economic reform: when national governments lacked monetary autonomy and had only limited fiscal autonomy, they would face greater pressure to adopt structural reforms that they previously had refused to implement. Instead, nations in the periphery of Europe experienced a financial boom derived from the drop in interest rates and exchange rate risk. The budget constraints for these countries were loosened, rather than tightened. Moreover, both public and private accountability was diminished during the boom because the consequences of bad decisions are largely imperceptible, at least in the short run, when rising asset prices hide all mistakes.

The line of argument we have pursued suggests several avenues for future research. First, while case studies can help to analyze the mechanisms at play, a more systematic empirical analysis of public and private governance during changing financial conditions is necessary to test our theory. Second, our hypothesis on signal extraction during financial booms needs to be formalized more fully. A final issue concerns the broader applicability of our analysis. Are all situations where financing is plentiful and cheap conducive to the lowering of standards, the deterioration of governance, and the postponement of needed economic reforms? If so, this situation is currently the one the United States, at the zero lower bound, is facing—in which case our analysis suggests that America's citizens and policymakers should be especially vigilant about the evolution of public and private governance.

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