



Europe on the Brink

Peter Boone and Simon Johnson

Peter Boone is a principal at Salute Capital Management U.K., non-resident senior fellow at the Peterson Institute for International Economics, visiting senior fellow at the London School of Economics, and Chairman of Effective Intervention. **Simon Johnson**, senior fellow at the Peterson Institute for International Economics since 2008, was previously the International Monetary Fund's Economic Counsellor and director of the Research Department (2007–08). He is the Ronald A. Kurtz Professor of Entrepreneurship at MIT's Sloan School of Management (2004–present). He is also a member of the FDIC's Systemic Resolution Advisory Committee, the Congressional Budget Office's Panel of Economic Advisers.

Note: The authors thank the Smith Richardson foundation for its support. All views expressed here are personal and do not represent the positions of any organizations. For updates and related policy analysis, see <http://BaselineScenario.com>.

© Peter G. Peterson Institute for International Economics. All rights reserved.

SUMMARY:

- Attempts to resolve the problems in Europe are failing, and the crisis is spreading from Greece, Ireland, and Portugal to larger nations.
- Europe's financial system relies on moral hazard, i.e., a “no defaults” policy, to attract the funding needed to roll over large amounts of short-term bank and sovereign debt. Now that politicians in creditor nations are calling for private sector burden sharing, investors are demanding higher interest rates to hold these debts. But higher rates may tip banks and nations toward bankruptcy.
- Europe's banks and financial system are highly integrated across countries. Rising expectations of default in some countries could lead to large-scale capital flight into “safe” countries. This shift will raise concerns regarding solvency and liquidity of many financial institutions.
- The payments system of the euro area is serving as an opaque bailout mechanism that is currently preventing the euro area from falling apart at this time. If the number

of nations in trouble spreads beyond Greece, Ireland, and Portugal, this bailout system will be stressed because of the potential size of accumulated funding.

- The European Central Bank (ECB) could soon see a vocal debate between inflationist and hawkish (anti-inflation) members. Inflationists will call for large-scale interventions, including bond buybacks and emergency loans, while the hawks will attempt to close loopholes in the payments system that effectively permit each troubled nation to create money needed to finance capital flight and budget deficits.
- At this stage in the debate, we see little chance that Europe can avoid ending the “moral hazard” regime, in which case it needs to plan for widespread sovereign and bank debt restructurings.

We see three plausible scenarios in the coming months:

1. The euro area manages to regain credibility regarding its willingness to “do whatever it takes” to resolve the current crisis while avoiding defaults and inflation. This ironically requires far more rapid and larger austerity than currently planned in the periphery.
2. The euro area chooses decisively to end the moral hazard regime. While this will not be orderly, the problems can be reduced through comprehensive and rapid actions to restructure sovereign and bank debt in highly indebted nations, while recapitalizing banks elsewhere.
3. The euro area remains in limbo, unable to choose a clear path. This would lead to a large disorderly series of financial sector and sovereign defaults, while an “inflationary majority” is likely to eventually assert control of the ECB and manage a massive liquidity expansion.

The euro crisis is not under control. Deep structural flaws have become apparent—particularly the extent to which moral hazard has underpinned credit flows within the euro area. Ending this moral hazard will not be easy, particularly as European decision-making structures are struggling to find a comprehensive approach.

THE EURO AREA IS FAILING TO GET THE CRISIS UNDER CONTROL

Figure 1 shows the price of five-year credit default swaps (CDS) offering protection against default across euro area sovereigns. It is clear that CDS prices in the periphery nations (Greece, Ireland, Italy, Portugal, and Spain) are trending up and most are near or at all-time highs, despite successive bailout programs and repeated commitments from politicians that no defaults would occur. Market prices currently imply an 88 percent chance of default in Greece within five years. More worrying is the rise of Italian CDS prices to near-record levels on July 11. These now imply a 25 percent chance Italy will default within the next five years. (These calculations assume a 40 percent recovery rate post-default.)

EURO AREA STRUCTURAL FLAWS EXPLAIN THE DANGEROUS DEBT BURDENS THAT COULD TOPPLE THE EURO AREA

Key rules regarding money creation in the euro area explain the current dangerous situation. Since its founding, the European Central Bank has used repurchase operations as a major tool of monetary policy. In practice, this means that the 7,856 banks (monetary financial institutions at the end of 2010) in the euro area are able to buy sovereign debt of any euro area member nation and then present these to national central banks, which act on behalf of the ECB, as collateral for new finance. The ECB set collateral rules that made short-term paper more attractive than long-term paper (Buiter and Sibert 2005, 7-14). Initially the Bank also treated all nations equally, regardless of credit ratings. Later it adjusted collateral requirements for nations to reflect their credit ratings, although these adjustments were minor.

As a result of this system, it became very profitable for banks to buy short-term government paper and deposit that paper with the ECB in return for loans. The margin between the returns on the government paper and ECB lending rates became profit for the commercial banks.

This system generated three major developments that have contributed to the build-up of risk. First, the ECB repo system made government bonds highly liquid, because a buyer could always turn to the Bank for funds. This increased market access for smaller European nations that would otherwise have had difficulty issuing a great deal of debt. Second, while the ECB did not promote this explicitly, investors grew confident, with good reason, that the Bank and the European Union would never let a sovereign fail. There were good reasons to believe this. All major European banks built up substantial

portfolios of short-term sovereign debt and sovereigns, in turn, issued more of this debt. It became very clear that sovereign defaults could be catastrophic for the banking system, and so would be very unlikely to occur.

Key rules regarding money creation in the euro area explain the current dangerous situation.

Finally, the system became even more dangerous as many banks went on a credit expansion spree. European banks issued short-term bonds in order to finance additional long-term loans. This was possible because the balance sheets of banks were filled with assets that could be used as collateral at the ECB. Investors concluded that banks would not have liquidity problems given their ECB access, and they assumed that if solvency issues arose, governments or shareholders would be prepared to inject capital to prevent defaults. The regulatory environment in Europe, which did not include leverage limits similar to those in the United States, also encouraged European banks to use leverage to buy relatively “safe” securities rather than take on what were perceived as less risky assets. Thus European banks became major financiers of America’s real estate debts, which were perceived to be safe until 2007–08.

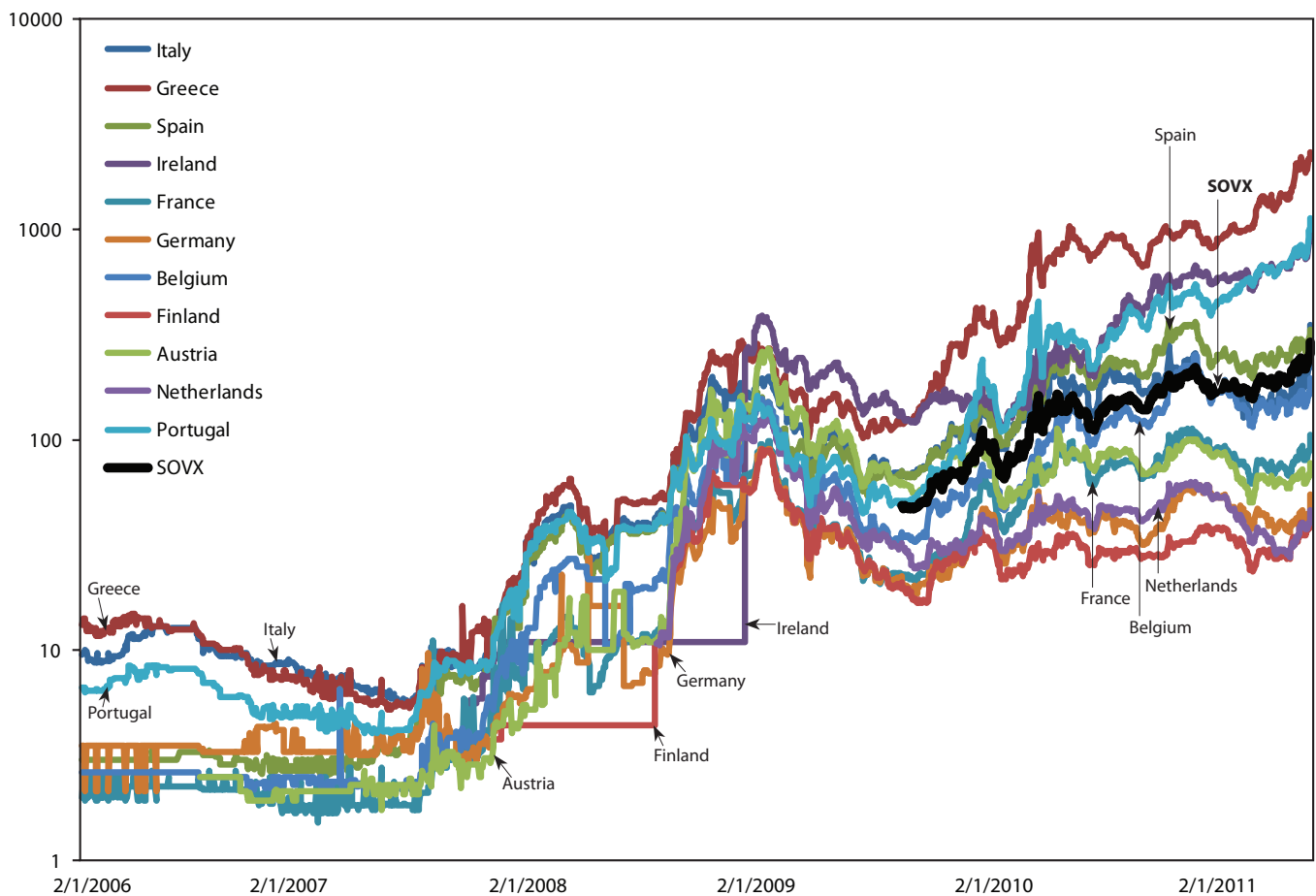
MOVING FROM A MORAL HAZARD REGIME TO “FEND FOR YOURSELF”

A typical corporation tends to have relatively little debt, and it chooses maturities for its debts such that it has plenty of time to repay them with cash flow or to raise new funds should brief periods of difficult market access arise. This is not the case with sovereigns and banks.

Sovereigns tend to build up much larger short-term debt than they can repay with immediate cash flow as they have access to regular tax revenues, making them more secure borrowers. They also have the backing of a central bank that can ultimately print new money or buy bonds if needed to cover government treasury cash flow needs. Because banks are regulated, and their deposits are typically largely guaranteed by governments (in places like the European Union), investors naturally expect governments will bail out banks if short-term liquidity is needed.

The problem the euro area faces is that creditors lent money to banks and the sovereign under the assumption that they would all be supported fully during periods of trouble. Led by Germany, the euro area is now switching from a “moral hazard”

Figure 1 Five-year credit default swaps (CDS) of main euro area members (logarithmic scale)



Source: Bloomberg.

regime to new arrangements under which all nations must fend for themselves. The stated reason is that these nations will otherwise spend too much and become insolvent. Furthermore, the Germans would like to see creditors bear the risk of default rather than taxpayers in creditor nations (like Germany).

While the German logic is impeccable and could lead to a much more financially sound euro area, there is no easy roadmap to follow from Europe's current debt structure to the one consistent with German-inspired austerity. Had these German principles been in place from 1997, most nations in the euro area would necessarily have far less debt, their debt would be longer maturity, and their banks would be less leveraged. In the meantime, presumably, we may already have had multiple mini-financial crises in which sovereigns or banks or both failed due to "buyers' strikes" regarding their securities.

It becomes increasingly likely that no lender of last resort exists in the euro area, making it more like a typical emerging

market than a developed nation. Emerging markets succumb to defaults because they borrow in currencies which they cannot print. The defaults occur when the nation runs out of foreign currency with which to make payments on its debt. Such nations typically have low debt levels relative to income and modest short-term debt, compared with the 85 percent debt/gross domestic product average in the euro area. If the Germans get their way, we should compare euro area deficits and debt levels to emerging markets, not to other developed nations with their own printing presses and domestic debt.

There is no doubt that the ECB understands the dangerous dilemma it helped create. Jean-Claude Trichet, the Bank's president, says the Euro area financial stability warning monitor should be labelled "code red," and he has called repeatedly for "no defaults, no credit events, no selective default" in the euro area. Presumably, he has concluded that there are potentially dire implications when investors conclude the moral hazard

regime in the euro area is coming to an abrupt end. In addition, Trichet commented: “The most serious threat to financial stability in the European Union stems from the interplay between the vulnerabilities of public finances in certain EU member states and the banking system, with potential contagion effects across the Union and beyond.”¹

ARE ANY NATIONS IN THE EURO AREA SOLVENT? MAYBE NOT—THAT IS WHY THE ABRUPT END OF MORAL HAZARD IS SO DANGEROUS

Government solvency is a long-term accounting concept. There is no magic formula that can determine, even roughly, which nation is solvent today and which is not.² Because very long-term growth rates, interest rates and budget balances must be predicted in order to determine whether a nation is solvent, there is a large degree of arbitrariness when pronouncing one nation solvent and another insolvent. Economists are very bad at predicting long-term growth rates, and the interest rate on debt paid at any point in time invariably reflects sentiment, current liquidity conditions, and many other factors. While common “wisdom” is that Greece is surely insolvent today, it is very easy, as the International Monetary Fund does from time to time, to create plausible scenarios in which Greece is solvent.

The ability to refinance or roll over debt is a much clearer concept, and it is this need for liquidity that breaks nations and pushes them into default. Figure 2 shows rough estimates of the financing needs for some euro area countries over the next year to cover debt falling due plus the budget deficit. There is wide variance in amounts due, ranging from 7 percent of GDP for Austria to one-third of GDP for Greece. Because all these nations are running budget deficits, none of them can source this financing from their revenues.

European banks also require large short-term funding. According to the recently published European Banking Authority stress test results, the 90 banks covered in that test owe €4.772 trillion within 24 months, equaling 38 percent of European Union GDP and 51% of euro area GDP (European Banking Authority 2011, 17). In France, Italy, and Germany, the largest two banks alone need to roll over 6 percent, 9 percent and 17 percent of national GDP in debt, respectively,

within 24 months. This compares to just 1.6 percent of GDP for the largest two banks in the United States.³ Since the ability to raise such large amounts of short-term finance in Europe rests on market confidence that the ECB and banks’ respective sovereigns are standing by as a lender of last resort, any rapid shift toward a regime where bailouts are unlikely could quickly lead to a liquidity crisis for some marginal banks.

One year into a five-year IMF-backed program in Greece, it is becoming clear that many people in the European Union and in Greece itself would like to require creditors to absorb some losses on the country’s sovereign bonds. If this occurs, markets will naturally conclude that Ireland and Portugal will also default in some fashion, as there is little appetite for expanded bailouts and—under their current IMF programs—each of these countries will need market access to roll over debt within a year or two. Further, if sovereign bonds can be restructured, why would authorities continue to use taxpayer funds to back senior debt of banks? There is no doubt that Greece’s large banks have avoided insolvency only at the behest of the government and the ECB.

Investors must then decide what interest rate they need on Italian debt, where the debt/GDP ratio is 120 percent, in order to bear the risk of default. If we assume a 25 percent risk of a 40 percent loss over five years, then Italian CDS would need to trade at 325 basis points. However, at 325 basis points, or roughly a 5 percent yield on five-year bonds, to maintain a stable debt/GDP ratio, Italy would need approximately a 2.5 percent GDP fiscal improvement (i.e., increase in primary surplus). Can the country achieve this quickly in the midst of rising interest rates and credit tightening? If not, the debt/GDP ratio will continue to rise and markets may be further concerned about defaults or restructuring. Since Italian commercial banks own approximately one-third of Italy’s debt burden, their solvency too must be questioned.

This argument for Italy can be repeated for more nations. How safe is Spain given the lack of clarity regarding the fiscal solvency of its banking sector and growth prospects? How safe is Belgium given its high debt levels and weak political system? The French debt burden is substantial, and France is arguably slow to get its deficit under control, so what premium should France pay?

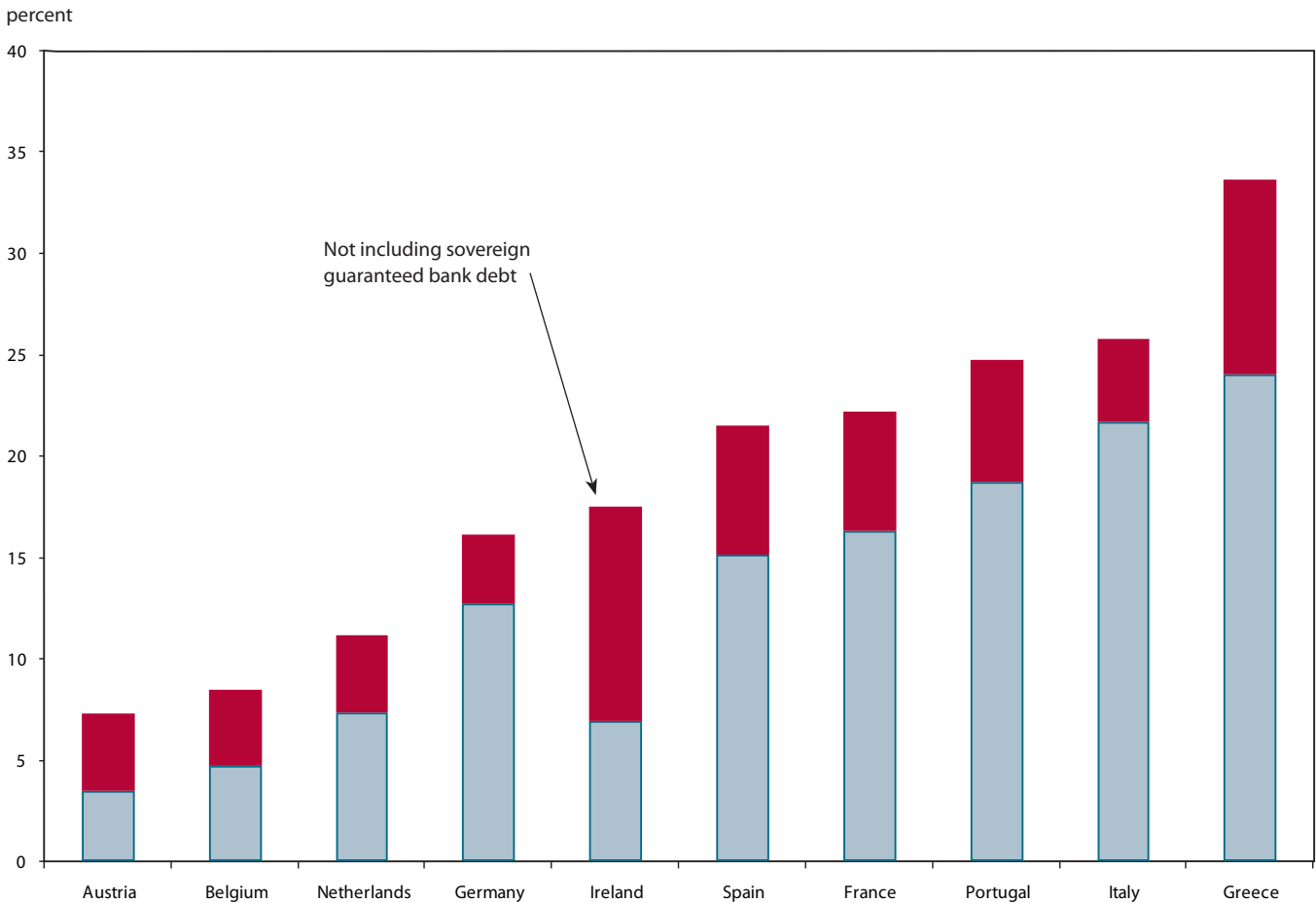
If several sovereigns are in default then the problems for remaining nations only grow. What will the fiscal bailouts

1. <http://www.businessweek.com/ap/financialnews/D9O128T80.htm>.

2. A general rule of thumb is that, for fiscal sustainability, a country needs to run a primary budget surplus (i.e., the budget balance, measured as a percentage of GDP, excluding interest payments), equal to the nominal interest rate minus its nominal growth rate, multiplied by its government debt/GDP ratio. By this simple rule Greece is solvent so long as it eventually manages to grow faster than the interest rate on its debt—and if it eventually achieves a primary balance. Such conditions seem difficult now, but they are not unimaginable.

3. These data for two-year rollovers cover bonds and loans from July 2011 to July 2013 reported by Bloomberg. The small figures for the United States reflect the much lower dependence on wholesale finance in the United States, although a more fragmented banking sector also explains part of the differences.

Figure 2 Principal to be paid from July 2011 to July 2012 (light) plus budget deficits (dark) for euro area members as a percentage of 2011 estimated GDP



Source: Bloomberg, European Commission, authors' calculations.

of banks, insurance and pension funds amount to in this scenario? And will this in turn raise risks for sovereign debt?⁴

In its analysis of the recent stress test data, Goldman Sachs reports that the exposure at default of the European Bank System to the GIIPS sovereigns (Greece, Ireland, Italy, Portugal, and Spain) equals 1.5 times their tangible equity. This dangerous interconnectedness means a systemic financial collapse is quite possible if Europe does not soon regain control of its problems (Goldman Sachs 2011, 1).

Given the large uncertainties and risks, European government bonds do not look attractive. At best they return par plus interest; at worst you may find national governments in Europe change domestic law to make your bonds nearly worthless. Unlike most emerging market bonds, which are

typically under New York or British law, bonds of European nations are largely under domestic law. This makes it simple for any nation to restructure its debt, but also increases the fear of bond holders—once they understand their legal recourse in event of the default is minimal.

STOPPING CAPITAL FLIGHT WOULD END THE EURO AREA

As each successive nation has run into crisis in Europe, the troubled nations suffer capital flight and a shortage of fiscal financing. Many commentators focus on the fiscal side, but that is only a small part of the total financing needed. The direct EU/IMF assistance disbursed so far been modest.⁵

4. The vast majority of sovereign bonds held by banks and insurance companies are marked on the books at purchase price rather than current market value. If the European Union embarks on programs to restructure these bonds, the potential capital losses for the EU financial system are very large.

5. Through early July 2011, the IMF had disbursed about €17.3 billion to Greece (<http://www.imf.org/external/np/sec/pr/2011/pr11273.htm>).

The much larger financing needs come from capital flight. In Ireland the two leading banks lost €65 billion in deposits from the end of 2008 to the end of 2010—equal to 52 percent of Irish gross national product. Similar deposit losses have occurred in Greece. As bond yields rise, the local banks tend to buy, because their futures are inextricably tied to the survival of their sovereign. Foreign institutions tend to sell bonds back to the local banks of the government that issued them. Finally, corporations and households tend to save outside their local banks, and foreign bank branches tend to reduce the size of their balance sheets in troubled nations.

All these transactions generate capital outflows. In a stand-alone country, these large capital flows (in a fixed exchange rate regime like the euro) would deplete foreign reserves and normally lead to bank failures and government default due to lack of liquidity. However, the ECB has been instrumental in preventing this in the euro area. This “back door” financing comes through the correspondent accounts of national central banks in the euro area. The ECB operates a payment system that nets out transactions across borders. When, for example, there is more money flowing out of Irish banks into German banks, the Irish central bank incurs a liability to the Bundesbank. The Bundesbank claims on Ireland could be repaid by the Central Bank of Ireland, for example by selling holdings of gold or other valuable assets, but this is not done. Instead, the balances continuously build up and they become financing to the Irish banking system.

Figure 3 shows the current status of this financing at the end of 2010. It illustrates that the Bundesbank is the largest creditor to the system, being owed €340 billion, while the central banks of GIIPS are the largest debtors. The total credit to GIIPS is €336 billion, which is more than the combined value of all the bailout packages to Greece plus the European Financial Stability Facility, the rescue fund backed by euro area nations. The credits are provided with no approval required from national parliaments or budgets, and there is an implicit assumption that all will be fully repaid.

These correspondent account balances are critical to the functioning of the euro system. If some central banks decided they would no longer accept claims from another central bank—let us say, hypothetically, the Bank of Ireland—this would effectively end the euro area. If euros held in Irish banks become less useful than euros held in German banks, the price of the two will diverge.

This potential break-up of the euro area is exactly what happened in the ruble zone when the Soviet Union broke apart. In the former Soviet Union, each republic had a regional central bank. These banks handled the payments system for the region. Similar to the euro area, they could create money by crediting the deposit accounts of local bank branches and

they could import cash. Once the USSR broke apart, many central banks raced to print money to benefit local interest groups. The resulting credit expansion generated very high inflation. The frenzy of money creation was stopped once the new national central banks refused to accept transfers of rubles from each other. Once central banks stopped accepting each

This potential break-up of the euro area is exactly what happened in the ruble zone when the Soviet Union broke apart.

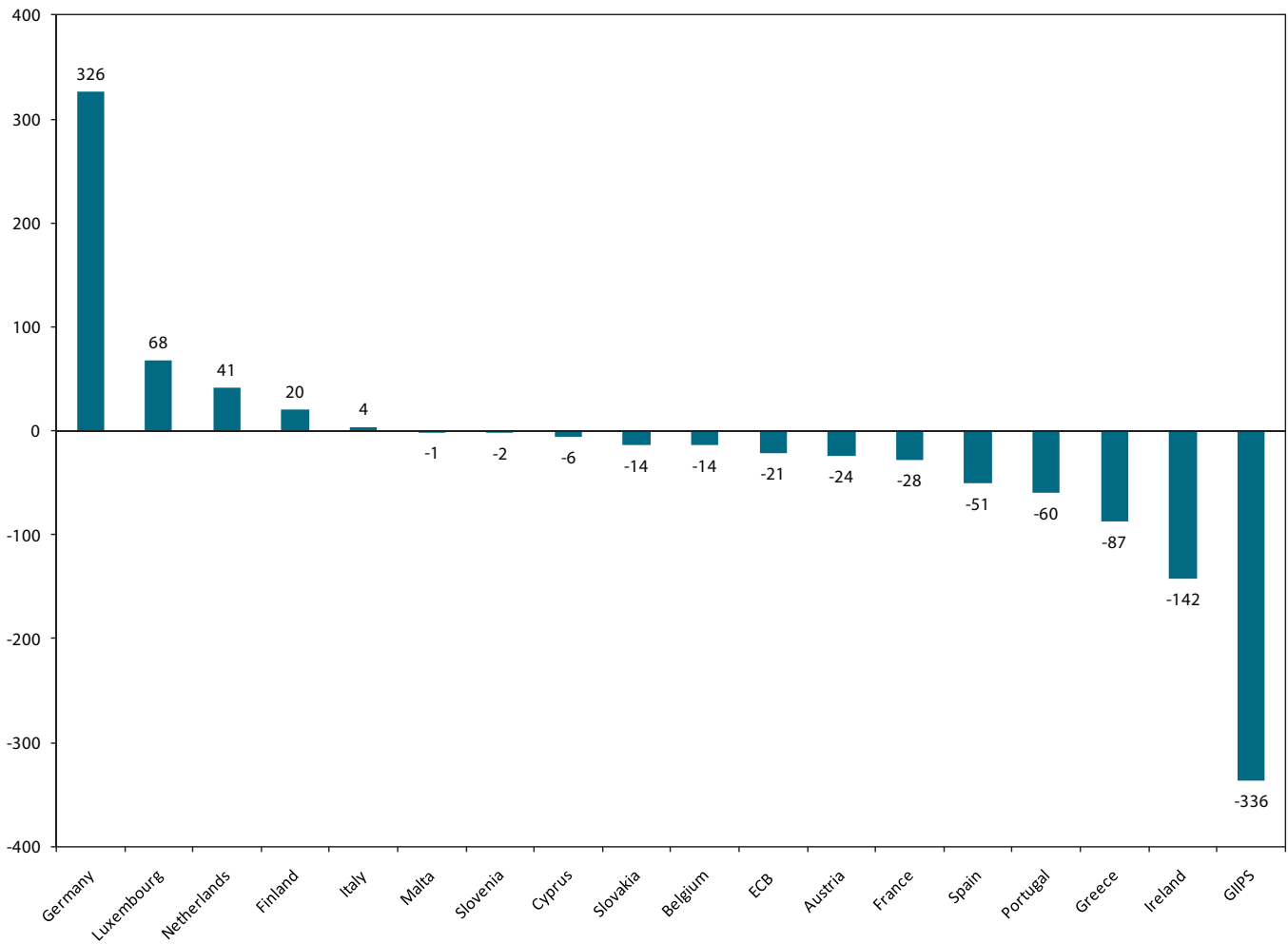
other’s transactions, the value of the ruble evolved differently in each nation. Cash maintains a common value, but prices of deposits in the different banking systems can vary.

In theory there is no limit to this euro area bailout mechanism. Even governments can use it. They can sell bonds to their local banks, which then deposit those as collateral with the ECB in order to gain the funds needed to pay for the bonds. Correspondent account balances only pay the ECB discount rate as interest, so this is a cheap form of financing. In practice the ECB has tried to use moral suasion to stop abuse of these accounts. The ECB pressured Greece, Ireland, and Portugal each to seek bilateral rescue loans and European Financial Stability Facility (EFSF) funds rather than use their banks and ECB credits to finance their deficits and rollovers.

If the euro area does move to end the “moral hazard” regime, we can expect much larger-scale capital flight from GIIPS and others. This will further increase the claims of the Bundesbank on GIIPS. While in theory these claims are liabilities of the euro system as a whole, not just the Bundesbank, German taxpayers are still taking large risk through providing such credits. According to ECB statutes, if a national central bank defaults, the remaining central banks are required to recapitalize the euro system according to their shares in the capital structure; Germany’s share is 27 percent. However, if we have multiple defaults across GIIPS and those nations did not contribute to recapitalize the euro system, Germany’s share would rise further.

Realistic politicians may argue that these credits must stop growing. They could, for example, demand that the correspondent account balances be reconciled each day, perhaps with shipments of gold or other valuable securities that cannot be created by national central banks. If such changes were made, Greece, Ireland, and Portugal could not afford to settle their balance, and they are unlikely to be able to keep managing their payments systems which will remain in deficit into the future. Eventually, they would default on transactions.

Figure 3 Claims of euro area members from netting of Euro System cross-border payments (in billions of euros)



Source: Sinn and Wollmershäuser 2011, 5.

Note: The Bundesbank has commented on Sinn's analysis, arguing that these correspondent accounts are effectively guaranteed by the ECB and so the full cost of any defaults would not be suffered by Germany alone. However, they do agree that these transfers are a direct result of the financial crisis and capital flight out of the periphery. In the March 2011 Bundesbank "Monthly Report" they note, on page 35: "The sharp rise in the Bundesbank's TARGET2 balance since 2007 is essentially due to the tension on the money market and problems in the banking sector within the euro area. In the years prior to the financial crisis, Germany's cross-border payments were virtually balanced."

Capital flight would anticipate this default and flee, as people rushed to transfer their savings to Germany, which would see a significant increase in liquidity, and its surpluses on the payments system would rise rapidly, while the nations in trouble would experience a large squeeze. It is the Germans, not the weak nations, who would want to end this payments system. A plausible conclusion would be the exit of Germany from the euro area, and a series of defaults across nations and banks as the payments system fails.

EUROPE MUST DECIDE: DOES IT WANT TO STICK WITH THE "MORAL HAZARD" REGIME OR NOT?

Europe could still avoid large-scale defaults by resolutely supporting a bailout system for troubled banks and sovereigns in a renewed, highly credible manner. This was the initial plan of European politicians, as events unfolded in Greece in 2010, but it has failed as the electorate in donor nations becomes appalled by the reported waste and corruption in the troubled nations—while those suffering the austerity programs are also balking. It is now only the ECB that fights vigorously for this program.

It is important to consider the transition of German official discussion regarding bailouts. After the initial Greek bailouts in Spring 2010 and pledges that there would be no European defaults, Chancellor Angela Merkel of Germany launched a project to create a European Stability Mechanism (ESM) that would include potential defaults after mid-2013. At the time, Merkel stressed that defaults would only apply to bonds “issued after late 2013.”⁶ However, slow-adjusting deficits in the periphery mean more money is needed now and bailout fatigue has become evident in Germany; as a result, German views have shifted.

The most recent collapse in European bond values was triggered by Germany’s Finance Minister Wolfgang Schäuble, after he suggested a Greek restructuring may be needed in an April 14, 2011 interview to *Die Welt* newspaper.⁷ He later denied that he sought restructuring, but on June 6, 2011 he wrote a letter to Eurogroup finance ministers and ECB president Jean-Claude Trichet calling for all Greek bonds to be restructured by extending their maturity by seven years. His language was unambiguous:

“This means that any agreement on 20 June has to include a clear mandate—given to Greece possibly together with the IMF—to initiate the process of involving holders of Greek bonds. This process has to lead to a quantified and substantial contribution of bondholders to the support effort, beyond a pure Vienna initiative approach. Such a result can best be reached through a bond swap leading to a prolongation of the outstanding Greek sovereign bonds by seven years, at the same time giving Greece the necessary time to fully implement the necessary reforms and regain market confidence.”⁸

Bond markets have gyrated with each subsequent change in stance and the tensions in credit markets have even impacted credit default swap spreads on US major banks. The fact that the crisis, as measured by default swaps spreads and bond prices, is widening and worsening each time the Germans appear more reluctant to stick to the bailout regime is good evidence that investors recognize the “end of the moral hazard regime” may be something dire.

A second issue, and one that should make Europe’s leaders especially concerned, is that the dynamics of the current

“bailout solution” appear to be leading to more hatred rather than a desire for consolidation and continuity. It is very typical in crises for populations in creditor nations to ridicule the troubled places, while the troubled groups eventually blame creditors for austerity rather than acknowledging and solving their own weaknesses. Such dynamics are divisive and can eventually lead to dangerous politics.

These dynamics are fully evident today in Europe. Despite Greece having made large pension reforms and budget cuts, it gets little credit in popular opinion among northern creditors. While the country managed to meet most IMF targets until June 30, media coverage often suggests the Greeks are off-track. Common wisdom is that Greeks do not pay taxes, yet budget revenues as a percentage of GDP in Greece are greater than in the United States, Japan, and Spain. Similar “half-truth” criticisms are spreading about the Irish, Portuguese, Spanish, and Italians.

The creditors do not have perfect track records, whatever they may claim or want to believe. As Trichet regularly points out, Germany sought to relax the Stability and Growth Pact in 2005, sending a message that it was acceptable to break rules, simply because Germany did not want to implement its own austerity at that time. The Greeks complain that German banks should never have lent money to the corrupt Greek government, while the Irish blame the ECB for requiring them to repay debts to creditors that, had they thought clearly about the risks, never should have lent money to Ireland’s reckless banks. Both of these complaints have some merit.

If European leaders really want to avoid large defaults and so get the “bailout” regime back on track, they need to take decisive measures.

Creditor nations will need to publicly admit that bailout costs may run far higher than the €750 billion currently committed: €440 billion in the EFSF, €60 billion from the European Union and €250 billion from the IMF.⁹ Troubled banks across the euro area need larger capital injections, and euro area members need to be prepared to provide financing to troubled debtor countries for five to 10 years, rather than the one to two years currently implied in the current EU/IMF programs.

To make such a program credible, both troubled nations and creditors will need to reduce the costs of required bailouts in order to make them feasible and acceptable for creditor electorates. Despite the hard measures taken to date, Greece will run a budget deficit of €17 billion in 2011, according to IMF projections, which is 7.6 percent of GDP. Ireland launched the periphery’s first aggressive austerity program in 2009, yet in

6. <http://www.businessinsider.com/eu-bond-guarantee-through-2013-2010-11>

7. <http://www.businessweek.com/news/2011-04-14/greek-portuguese-bonds-slump-as-schaeuble-raises-restructuring.html>

8. Translated text as reported by Reuters, <http://www.reuters.com/article/2011/06/08/greece-germany-letter-idUSB4E7G900O20110608>

9. <http://www.nytimes.com/2010/09/21/business/global/21euro.html>

2011 it is projected to run a €14.8 billion deficit, equal to 11 percent of GNP. In both these countries, sharp cuts to investment budgets have been offset by rising costs of unemployment and other social benefits.

These gradual deficit reductions leave the euro area bailout programs with unpredictable and large liabilities in the future. The only credible solution is to cut these liabilities more sharply and in a permanent manner. In Greece and Ireland, where the public sector grew rapidly in the last decade, very large public sector wage and benefit cuts are necessary. For example, the Irish budget could be near balance if the government abandons its pledge to maintain public sector wages and instead rolled back public sector costs to the levels of the mid-2000s. The aim must be to bring primary balances to a substantial surplus in 2012.

The creditor nations, to make this credible, must also accept to socialize adjustment costs. EU president Jose Manuel Barroso has led an important initiative for Greece that frees €15 billion in investment and infrastructure finance over three years. Similar programs need to be expanded and accelerated for other periphery nations.

There is no doubt that the euro area cannot afford to bail out Italy. Yet Italy's current "austerity program" is not nearly decisive enough to convince capital markets. The bulk of budget measures in this program are only implemented after elections in 2013 and 2014. Italy needs to move those measures forward and, as Greece and Ireland have done, focus on wage and benefit cuts that do not directly cause higher unemployment and related expenditure increases. In all cases supply side reforms, such as reducing labor and product market protectionism, while simplifying tax systems, need to be implemented simultaneously. Other large nations, such as France, must follow similarly.

If austerity programs continue to disappoint, the periphery will need larger and longer bailout programs. The potential liabilities of these are difficult to estimate, and investors will naturally question the credibility of all parties involved when they promise to "do whatever it takes." In this case interest rates will stay high, capital flight will continue, and euro area nations will further grow apart, making any orderly solution less and less likely.

It is also highly questionable whether it would be wise for Europe to align itself around renewed long-term bailout programs. If Europe is truly willing to guarantee senior bank creditors and sovereign bond holders for many years or decades, it needs long-term consensus and ability to ensure that sovereigns and banks do not abuse the system. We doubt that the euro area can ever implement effective prudential regulation for 17 sovereigns and 7,856 banks.

For all these reasons, Angela Merkel's stance that creditors must eventually bear costs through defaults makes complete

sense. But getting from the current arrangements to Merkel's proposed regime will surely be very messy.

ENDING THE MORAL HAZARD REGIME DECISIVELY

If moral hazard is to end (or be substantially reduced) Europe needs to admit that many sovereigns and banks have too much debt, and the maturity structure of the debt is completely inappropriate. Members will also need to quickly reduce their needs for budget financing.

We do not believe this can be done piecemeal in an orderly manner. Once the decision is made to embark on default, for example by forcing the private sector to realize substantial net present value losses on bonds in Greece, investors will naturally assume that similar methods will be used elsewhere. Neither banks nor sovereigns in other troubled nations will be spared. Therefore, it makes sense to embark on this decisively rather than singly.

The size and maturity structure of debt can be transformed quickly through a series of debt restructurings across sovereigns. It seems most likely that each of GIIPS would need to restructure its debts. Belgium would probably also have to join. These nations could manage rapid restructurings by introducing legislation that made it easy to force bond holders to swap their bonds for longer maturities, and reduced principal or interest bonds as necessary. By extending maturities, the credibility that nations can repay their debts would be substantially enhanced.

Those changes will cause serious problems for domestic banks, insurance companies, and pension funds. The ideal solution would be to recapitalize these through a public sector program if private finance cannot be found and then encourage mergers with healthier institutions in core nations.

At the same time, each troubled nation will need to end its budget deficit quickly. The most direct route, as discussed above, is to embark on significant public sector wage and benefit cuts that bring the primary balances into substantial surpluses. These steps will be hugely unpopular, but the reality is unfortunate and simple—to stay in the euro area each nation must quickly get its house in order. Were they to leave the euro area, the situation would undoubtedly be initially far more chaotic. Politicians could always offer these distinct choices through referendums. It is highly likely that GIIPS and Belgium would choose to remain in the euro area.

The potential losses to the financial sector in core countries would be large, and related concerns would cause some spillover to other markets around the world. Since European institutions bought the vast bulk of European sovereign and bank debts, the direct non-European exposures are small. We doubt the prob-

lems in Europe would generate Lehman-style trouble for the United States and Japan.¹⁰

While on paper all these steps are feasible, they would surely feel chaotic and disorderly when implemented—and there would be a backlash. There is no simple means to coordinate such complex decisions and the politics could at times be explosive.

For those nations that are not part of the restructuring plans, the ECB would need to establish a *cordon sanitaire*, providing large-scale liquidity support to keep sovereign bond yields from rising sharply and to provide emergency liquidity to banks. At the global level, the Group of 20 could pledge to support the euro and provide swap lines to European banks in order to be sure they can refinance dollar exposures.¹¹

Six months ago it seemed as though Greece, Ireland, and Portugal needed to be hived off while the remainder could be included in a “safe zone” that would be fully backed by the ECB and euro area. Today, with the lack of political credibility of any such system, it is increasingly likely Italy and Spain will find themselves outside the safe zone. This is the usual pattern for large-scale crises. When the Asian crisis began, no one imagined that South Korea would later succumb; indeed South Korea provided bailout funds to Thailand. Nor was it suspected that the dynamics would lead to the dramatic default and collapse in Russia. If crisis in Europe causes asset markets to fall and risk premiums to rise, we will get recessions, rising budget deficits and spreading problems.

DISORDERLY END: THE PATH WE ARE CURRENTLY ON

Policymakers are currently caught in an unsustainable limbo between promising selected defaults while imagining that they can hold together the rest of the euro area. It is clear to us that as these defaults are realized, and markets start to price in the end of the moral hazard regime across Europe, rising risk premiums will cause the problem to spread far deeper and wider than is currently envisioned.

The natural outcome will be a series of panics, large-scale capital flight from one nation after another and then defaults. Greece is leading the way, but it could even spread

10. US money market funds hold \$435 billion in short-term euro area bank debt paper as of May 2011. This is substantial, but \$412 billion of this is in paper issued by relatively safe French, German and Dutch banks. Any withdrawal of this funding from European banks as notes matured could easily be replaced by ECB repo lending.

11. This solution is an expanded variant of the *cordon sanitaire* we described previously. See Peter Boone and Simon Johnson, “Europe’s Monetary Cordon Sanitaire,” November 14, 2010, <http://www.project-syndicate.org/commentary/johnson14/English>.

well beyond GIIPS. The economic destruction caused by these disorderly outcomes, in combination with what are likely to be divisive politics, may make it ever harder for any consensus to be reached across the euro area. This will, in turn, make the situation look more dangerous.

As the problem in Europe grows, the more troubled nations may gain the upper hand in ECB decision-making. Indeed, during this recent mini-crisis, nine members of the euro area saw bond prices fall while markets treated six as safe havens and their bonds rallied (two nations have no quoted bonds). This means the “troubled nations” are already in the majority.¹² Starting in October 2011, five of six members of the ECB executive board, including the Bank president, will be from troubled nations.¹³ With such numbers, and a governance structure in which each nation has one vote, it is hard to understand why the ECB would retain its hawkish stance amid the crisis.

To prevent financial collapse, the ECB may well choose to embark on large-scale bond-buying programs that cover many nations within the euro area while continuing to provide unlimited liquidity through the payments system. In effect, the central bank would demonstrate that it is prepared to be a fiscal bailout mechanism to Europe’s troubled nations. This will prevent or limit defaults, but it will lead to a sharp decline in the value of the euro and higher inflation.

The evolution of politics in this scenario is hard to predict. It is imaginable that northern nations in Europe, faced with chaotic markets, large bailout costs and battles within the ECB, could choose to leave the euro area themselves and start a new currency. It is also possible the nations will band together and attempt to kick out some; this can be achieved by cutting off the correspondent accounts to that nation at national central banks. Ultimately, whatever occurs, the euro would turn into something more reminiscent of the Italian lira or the Spanish peseta than the strong deutsche mark its founders once envisioned.

12. According to Bloomberg, during the week ended July 11, 2011, the price of 10-year bonds rose (yields, which move inversely to the price, fell) in Austria, Finland, France, Germany, Luxembourg, and the Netherlands. The price of bonds fell and yields rose in Belgium, Cyprus, Greece, Ireland, Italy, Portugal, Slovakia, Slovenia, and Spain. Estonia and Malta have no quoted 10-year bonds.

13. While we do not want to question the inflation-fighting credentials of the individuals involved, the national composition of the ECB executive board after Jean-Claude Trichet leaves in October will be Italy (2 members), Portugal (1), Spain (1), Belgium (1) and Germany (1). One Italian member, Lorenzo Bini-Smaghi, has reportedly agreed with President Nicolas Sarkozy of France to retire from the executive board by December 31, 2011, so that he can be replaced by a French national.

REFERENCES

Buiter, Willem and Anne Sibert. 2005. How the Eurosystem's Treatment of Collateral in Its Open Market Operations Weakens Fiscal Discipline in the Eurozone and What to Do About It. Paper presented at a conference on Fiscal Policy and the Road to the Euro conference, organized by the National Bank of Poland and the Central Bank of Hungary, Warsaw, June 30–July 1.

European Banking Authority. 2011. *2011 EU-Wide Stress Test Aggregate Report*. Available at http://stress-test.eba.europa.eu/pdf/EBA_ST_2011_Summary_Report_v6.pdf (accessed on July 18, 2011).

Goldman Sachs, 2011. *Stress Test 2: Banks Not Bucking Under EBA's Stress; Focus Moving to Connectivity*.

Sinn, Hans-Werner and Timo Wollmershäuser. 2011. *Target Loans, Current Account Balances and Capital Flows: The ECB's Rescue Facility*. CESifo Working Paper 3500. Available at www.cesifo.org/wp (accessed on July 18, 2011).

The views expressed in this publication are those of the authors. This publication is part of the overall programs of the Institute, as endorsed by its Board of Directors, but does not necessarily reflect the views of individual members of the Board or the Advisory Committee.