

Kelton, Stephanie A.; Wray, L. Randall

Research Report

Can Euroland survive?

Public Policy Brief, No. 106

Provided in Cooperation with:

Levy Economics Institute of Bard College

Suggested Citation: Kelton, Stephanie A.; Wray, L. Randall (2009) : Can Euroland survive?, Public Policy Brief, No. 106, ISBN 978-1-936192-00-7, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY

This Version is available at:

<https://hdl.handle.net/10419/54329>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



The Levy Economics Institute of Bard College

Public Policy Brief

No. 106, 2009

CAN EUROLAND SURVIVE?

STEPHANIE A. KELTON and L. RANDALL WRAY

Contents

3 Preface

Dimitri B. Papadimitriou

4 Can Euroland Survive?

Stephanie A. Kelton and L. Randall Wray

20 About the Authors

The Levy Economics Institute of Bard College, founded in 1986, is an autonomous research organization. It is nonpartisan, open to the examination of diverse points of view, and dedicated to public service.

The Institute is publishing this research with the conviction that it is a constructive and positive contribution to discussions and debates on relevant policy issues. Neither the Institute's Board of Governors nor its advisers necessarily endorse any proposal made by the authors.

The Institute believes in the potential for the study of economics to improve the human condition. Through scholarship and research it generates viable, effective public policy responses to important economic problems that profoundly affect the quality of life in the United States and abroad.

The present research agenda includes such issues as financial instability, poverty, employment, gender, problems associated with the distribution of income and wealth, and international trade and competitiveness. In all its endeavors, the Institute places heavy emphasis on the values of personal freedom and justice.

Editor: W. Ray Towle
Text Editor: Barbara Ross

The Public Policy Brief Series is a publication of The Levy Economics Institute of Bard College, Blithewood, PO Box 5000, Annandale-on-Hudson, NY 12504-5000.

For information about the Levy Institute, call 845-758-7700 or 202-887-8464 (in Washington, D.C.), e-mail info@levy.org, or visit the Levy Institute website at www.levy.org.

The Public Policy Brief Series is produced by the Bard Publications Office.

Copyright © 2009 by The Levy Economics Institute. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information-retrieval system, without permission in writing from the publisher.

ISSN 1063-5297
ISBN 978-1-936192-00-7

Preface

Social unrest across Europe is growing as Euroland's economy collapses faster than the United States', the result of falling exports and a weaker fiscal response. The controversial title of this brief is based on a belief that the nature of the euro itself limits Euroland's fiscal policy space. The nations that have adopted the euro face "market-imposed" fiscal constraints on borrowing because they are not sovereign countries. Research Associate Stephanie A. Kelton and Senior Scholar L. Randall Wray foresee a real danger that these nations will be unable to prevent an accelerating slide toward depression that will threaten the existence of the European Union (EU).

Euroland's economic performance has converged to one that is uniformly poor for all members (i.e., chronically high unemployment and slow growth), a situation consistent with nonsovereign nations' relying on export-led (mercantilist) policy. Moreover, the capital markets have doubts about the ability of member governments to cover their debts. Thus, bond yield spreads have widened during the downturn, indicating that liquidity and default risks are expected to rise, and that national defaults are plausible.

The Federal Reserve (Fed) is lending to foreign central banks via swap lines and acting as the global lender of last resort. The authors maintain that the Fed does not face currency risk when it engages in overseas lending and that its actions have been a form of life support for Euroland. The question is whether there is sufficient political will for U.S. policymakers to continue this support as the Fed's financial services explode.

The authors outline how fiscal policy operates in a sovereign nation that issues its own currency. Since a sovereign government spends by crediting bank accounts, its spending is never constrained by taxes or bond sales. There is no reason for rating agencies to downgrade government debt, since it is sovereign debt with no default risk. Moreover, a sovereign government can bail out its state and local governments. This option as it relates to the European Parliament is unknown, since the European Central Bank is practically prohibited from taking over the debts of member states.

The only way out of this crisis is to use sovereign power and ramp up government spending. Rather than shoring up investor confidence, spending increases in Euroland have fueled concerns about the impact on government debt levels and the future of the euro. Nearly half of all member states are projected to breach the 3 percent deficit-to-GDP limit—debt that has to be purchased in (substantially tightened) private capital markets. The financial markets are expressing an unprecedented preference for German treasury issues, resulting in a dramatic widening of yield premiums against the bund. And in response to the threat of budgetary-related penalties by the EU's executive arm, some states may simply abandon the euro.

The authors believe that the Maastricht Treaty does not constrain government spending, so any changes to this legislation would do little to increase fiscal freedom. This argument is based on the notion that financial markets (by pricing risk) are likely to discipline governments before the treaty limits are reached. When a nation is perceived to be a "weak" issuer, the markets can effectively shut down its ability to stabilize conditions within its borders—a fundamental flaw that the authors have warned about since the euro zone's inception. Unless these nations can avert such financial constraints—for example, by establishing a sizable EU budget and giving the European Parliament fiscal authority on par with that of the U.S. Congress—prospects for stabilizing the euro zone appear grim. Since such measures are likely to be politically, culturally, and socially difficult, a trend toward dissolution remains a possibility.

As always, I welcome your comments.

Dimitri B. Papadimitriou, *President*

November 2009

Can Euroland Survive?

Introduction

Governments worldwide have spent the last year or so trying to find the right mix of fiscal and monetary policies to deal with the worst global economic meltdown since the 1930s. Virtually all central banks have responded by cutting interest rate targets to historic (or near-historic) levels. Most have also intervened as lenders of last resort. In the United States, the Federal Reserve (Fed) has injected massive amounts of liquidity into the banking system—bank reserves have risen from about \$20 billion in September 2008 to around \$800 billion today—and also eased global liquidity conditions by adding hundreds of billions of dollars to overseas markets through dollar swap-line arrangements. In addition to central bank lending, treasuries around the world have turned to fiscal “stimulus” packages like the \$787 billion American Recovery and Reinvestment Act (ARRA) passed by the U.S. Congress in February 2009. The current estimate is that the U.S. Treasury and the Fed have committed a total of \$8.8 trillion toward crisis resolution—an amount that still appears too small for the job at hand.¹

In this brief we show that Euroland—comprising the 16, out of a total of 27, European Union (EU) countries that use the euro—is in a particularly difficult situation, and not simply because its policymakers fail to realize the scope of the problem or that the Maastricht Treaty restricts the size and nature of possible interventions. Rather, we continue to argue that the nature of the euro limits fiscal policy space (Bell [Kelton] 2003, Sardonì and Wray 2006). At the level of individual member states, the euro is not a sovereign currency, so it imposes serious constraints on the ability of states to mount a substantial fiscal stimulus. At the EU level, parliament spending amounts to only 1 percent of total GDP, an amount far too modest for the job at hand. By contrast, the U.S. Treasury spends the equivalent of 20 percent of GDP, which will climb sharply this year and next.² It is not inconceivable that direct federal spending will rise well beyond 25 percent of GDP as part of the U.S. government’s attempt to restore economic growth. If so, the rise in spending would represent a relative increase that is five times the total annual spending of the European Parliament.

We realize that the euro countries are also increasing government spending and are likely to increase budget deficits signifi-

cantly, adding to any stimulus arising from Parliament. We also recognize that these nations have a greater capacity to deficit spend than the individual U.S. states, many of which are running (illegal) deficits and thereby triggering large reductions in spending that are adding to depressionary pressures in the United States. Still, we maintain that Euroland’s fiscal policy space (at both the aggregate and state levels) will be insufficient to deal with the current crisis. And this problem will be compounded in the event the Fed imposes lending restrictions on foreign central banks, or if the U.S. economy fails to recover quickly.

Meanwhile, there is growing unrest across Europe, signaling the first serious test of the sustainability of Euroland. While we raise a provocative question in our title—*Can Euroland Survive?*—we believe the union’s dissolution is unlikely. Rather, default on euro-denominated debt by one or more euro nations is more plausible. Although the probability of default on dollar-denominated debt (e.g., swap-line commitments) might be higher, such repercussions will be borne by the United States (mostly in the form of political fallout), as Americans wonder why the Fed has been lending hundreds of billions of essentially unsecured dollars to foreign central banks. The most likely (and certainly the most desirable) outcome of the crisis in Euroland will shift greater fiscal responsibility toward the sovereign; that is, the European Parliament. While the economics of this transition are fairly easy to discern, the real problem is politics. Even if the crisis is resolved, the prospects for further expansion of the euro area seem uncertain at best.

The Global Crisis

The U.S. economy is collapsing at a pace not seen since the early 1980s. Real GDP fell at an annual pace of 6.4 percent in the first quarter of 2009.³ In the same period, fixed investment fell at an annual rate of 37.6 percent, while personal income fell at an 8 percent pace. As of late summer, the economy had lost almost 7 million jobs since the recession began in 2007. Consumer prices fell at the fastest clip measured since the quarterly index was begun in 1947. Consumer spending and spending on durable goods were down 4.3 percent and 22 percent, respectively, in the fourth quarter of 2008. Although “big government” and a “big central bank” will constrain the collapse, this recession will be remembered as the Great Recession, setting it apart from the more benign contractions to which we have grown accustomed since the Great Depression.

Protests and riots broke out worldwide toward the end of 2008. Social unrest was perhaps most severe on the periphery of Euroland, with the exception of violent demonstrations in Ireland in February 2009. Russia imposed import tariffs of 30 percent on automobiles, 15 percent on farm kit, and 95 percent on poultry above quota levels. More than 10,000 people protested the Latvian government's handling of the crisis, which called for budget cuts of 25 percent (including a government employee wage cut of 15 percent) and early elections. The protest turned into a riot, with attacks on police and the parliament building. GDP in Latvia is projected to fall by 5 percent this year, following a drop of 2 percent in 2008. In Lithuania, police fended off 7,000 protestors using rubber bullets. Outside the Icelandic parliament building in Reykjavik, police used tear gas against 2,000 protestors, culminating a week of violent demonstrations against the government's handling of the economic crisis; the prime minister agreed to resign the following day. Apart from Iceland, which arguably has the oldest parliamentary democracy in the world, democracy has at best a shaky foothold in many of these countries, leading to fears that the widespread unrest could signal a turn toward authoritarianism.

Japan's economy is in freefall—perhaps the fastest downward acceleration toward depression ever seen in the developed world. The World Bank projects that 100 million more people will fall below the poverty line worldwide, and that 50 million might lose their jobs over the next year. Euroland is collapsing faster than the United States because its exports have dried up and its fiscal response has been weaker. GDP growth within the EU-16 was down 1.5 percent in the fourth quarter of 2008, a contraction of 6 percent on an annualized basis. The sharpest declines were in Euroland's three largest economies: Germany (-2.1 percent), France (-1.2 percent), and Italy (-1.8 percent) (Pfanner 2009). To address the worsening economic conditions, the Bundestag (the lower house of the German Parliament) approved a €50 billion stimulus plan that includes a combination of tax cuts and increased government spending. German federal tax revenue actually rose by 8.5 percent in January, thus squeezing the private sector. The European Commission (EC), which acts as executive of the EU, projects rising budget deficits across Euroland that will likely exceed current projections as economies collapse. Further, markets are punishing these countries, as exemplified by credit downgrades, rising prices for credit default swaps (CDSs), and widening interest rate spreads (e.g., the 10-year Irish-German spread expanded to 257 basis points

on February 16, even though Ireland's outstanding government debt was only 41 percent of GDP). Higher interest rates on government debt “crowd out” other government spending and reduce fiscal policy space. While Germany might have room for fiscal stimulus, it is unclear that other nations do.

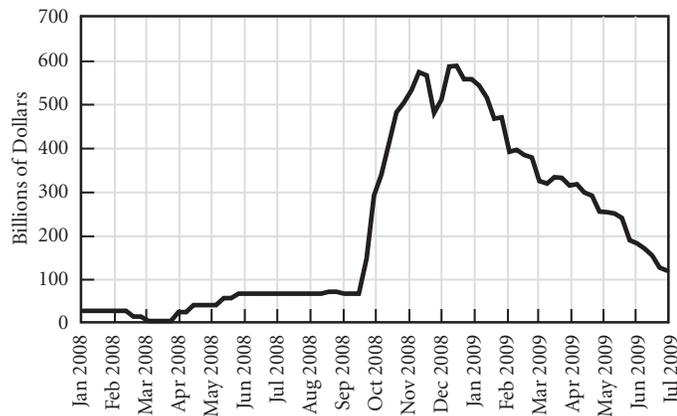
China is a good example of a country's swift reaction to the crisis. GDP grew by only 6.8 percent in the last quarter of 2008 (down from 13 percent in 2007), so Beijing responded by announcing a two-year stimulus package approaching \$600 billion (nearly as large as that proposed by President Obama), in the face of projections that 40 million workers would lose their jobs. The package equals approximately 14 percent of China's annual GDP, or more than twice the size of the U.S. package relative to their respective economies. When exports fell 2.2 percent in November 2008, the government raised export tax rebates for textiles and clothing to 15 percent (from 14 percent) and adopted a plan to support equipment manufacturing. Much of the stimulus focused on infrastructure, especially rail lines in the cities and in the relatively underdeveloped rural areas. China is also spending massively on airports, highways, and water treatment plants, in addition to allocating \$123 billion to phase in a universal health care program within two years (rather than over the next 11 years as originally planned).

This brief argues that an adequate policy response is prohibited by Euroland's fiscal and monetary arrangements. There is a real danger that the euro nations will be unable to prevent an accelerating slide toward depression that will threaten the very existence of the EU. The next section reviews what the Fed has done to help the central banks in Europe, then details the problems with the arrangements in Euroland. We argue that the lack of full sovereignty in Euroland limits its ability to respond adequately to the current economic and financial crisis.

The Federal Reserve's Global Response

The dollar is the international reserve currency. In spite of scorn toward the dollar and the United States in recent years, the Fed has come to the rescue of central banks worldwide. There have been two types of response to the global financial crisis. The first is a run to U.S. dollar assets; in particular, U.S. Treasuries, which are the most liquid asset. The second is a bit more complicated. In the face of declining sales revenue and asset values, many international corporations have had to exchange foreign currencies and liquidate eurodollar assets to cover dollar losses and meet

Figure 1 Central Bank Liquidity Swaps, January 2008 – July 2009 (in billions of dollars)



Source: Federal Reserve Statistical Release H.4.1

their dollar liabilities. This in turn has pressured both foreign currencies and foreign central banks to secure dollars. In response, the Fed has expanded its lending facilities. Further, the fall in the price of oil has resulted in a global “dollar squeeze,” whereby the shrinking supply of “petro dollars” has made the rest of the world eager to convert foreign currencies into dollars.

The primary way that the Fed lends to foreign central banks is via swap lines—a reciprocal arrangement whereby the Fed creates dollar liabilities and the foreign central banks create liabilities in their own currencies. In terms of the European Central Bank (ECB), the Fed holds euro deposits and issues dollar deposits to the ECB, while the ECB holds dollar deposits and issues euro deposits to the Fed. The ECB is then able to lend dollars to its domestic banks, with the Fed acting as the global lender of last resort. It is interesting to note that the Fed established these swap lines immediately following its take-over of insurance giant AIG in September 2008.⁴ As shown in Figure 1, lending through this channel skyrocketed shortly afterward.

What risks does this entail? This question captured the attention of many Americans after Congressman Alan Grayson (D-FL) grilled Fed Chairman Ben Bernanke following his testimony before the House Financial Services Committee in July. Grayson accused Bernanke of making bad lending decisions and pointed to the huge “losses” borne by the Fed as a result of swap-line activity. But Grayson got it wrong, because the Fed doesn’t face currency risk when it engages in overseas lending through swap lines of credit. Swaps are unwound at the same exchange

rate that prevailed when the transaction was made. In other words, when a foreign central bank draws on its swap line with the Fed, it sells a specified amount of its currency to the Fed in exchange for dollars at the prevailing market exchange rate. At the same time, both central banks enter into a separate contract that requires them to buy back their own currency on a specified date at the initial exchange rate. Neither bank faces any exchange rate risk in the transaction.

But this does not mean that swap lending is riskless. Indeed, central banks can face significant credit risk due to the possibility of default by foreign borrowers. With respect to Fed lending, this exposes the Fed to substantial credit risk, since swap lines are essentially unsecured loans and foreign central banks cannot service dollar debts simply by crediting accounts; that is, they have to come up with dollars in order to complete the swap at the specified future date. As Perry Mehrling (2008) notes, “These lending facilities involve substantial credit risk for the Fed, even when they are collateralized, since eligible collateral now includes any investment grade security whatsoever.”

We do not mean to imply that foreign central bank defaults will threaten the solvency of the U.S. Treasury, which can bear any loss. Rather, this is a political problem. Americans are already hesitant about spending trillions of dollars to rescue U.S. financial institutions, and there is little will to rescue foreign institutions. Until recently, most Americans had no idea that the Fed engaged in such actions, and they do not support the argument that this type of intervention is necessary to rescue the global financial system. The public’s reaction is probably why Bernanke has been reluctant to publicize the amount the Fed is lending through its swap lines.

Euroland was allowed to remain on life support when these swap arrangements were extended to the end of October 2009. From the perspective of Euroland, dollar lending has helped to cushion exchange rate volatility and allowed individual banks to meet the demand for eurodollar withdrawals. However, it is not clear how the central banks will service and retire this debt. There is no economic reason why the Fed cannot extend lending beyond October while waiting for the global economy to recover, so that Euroland can earn enough export revenue to repay the Fed’s loans. Again, the reason is political. Is there sufficient political will for U.S. policymakers to continue to support foreign central banks as Treasury and Fed spending, lending, and guarantees explode? What happens to the euro and euro nations if it is politically infeasible for the Fed to continue

its lifesaving measures? Without an answer, Euroland can only hope for the best.

Finally, the U.S. bailouts have been “passed through” to foreign financial institutions, including European banks. Indeed, many of the funds used to bail out AIG were subsequently sent to European banks, leading to a public outcry in the United States. Since the bailout has been shrouded in secrecy, we can only surmise that other such funds have found their way to Euroland.

Fiscal Policy in a Sovereign Nation

We briefly summarize how fiscal policy operates in a sovereign nation that issues its own currency. It is our claim that individual euro nations are not sovereign in this sense and therefore inappropriately face the fiscal constraints that orthodoxy attempts to apply to sovereign nations. Detailed expositions on this theme are found in many articles and books (e.g., Bell [Kelton] 2000; Bell [Kelton] and Wray 2002/03; Wray 1998, 2006, 2007).

A sovereign government spends by crediting bank accounts and taxes by debiting those accounts. A budget deficit means that credits exceed debits, which show up as net financial wealth in the nongovernment sector and as net reserve credits in the banking system. A budget surplus means the opposite: a reduction of net financial wealth in the nongovernment sector and of net reserve debits in the banking system. All else being equal, a perpetual budget deficit leads to perpetual net reserve credits, which normally generate excess banking reserves that are offered in the overnight market. Of course, the excess in aggregate cannot be eliminated through such lending. All it can do is push the overnight lending rate toward zero. This pressure is relieved through sales of government bonds by the central bank and treasury. Over the short term, such sales are accomplished through the open-market operations of the central bank. Over the longer term, such sales are accomplished through new issues by the treasury and allow the central bank to hit its overnight target rate.

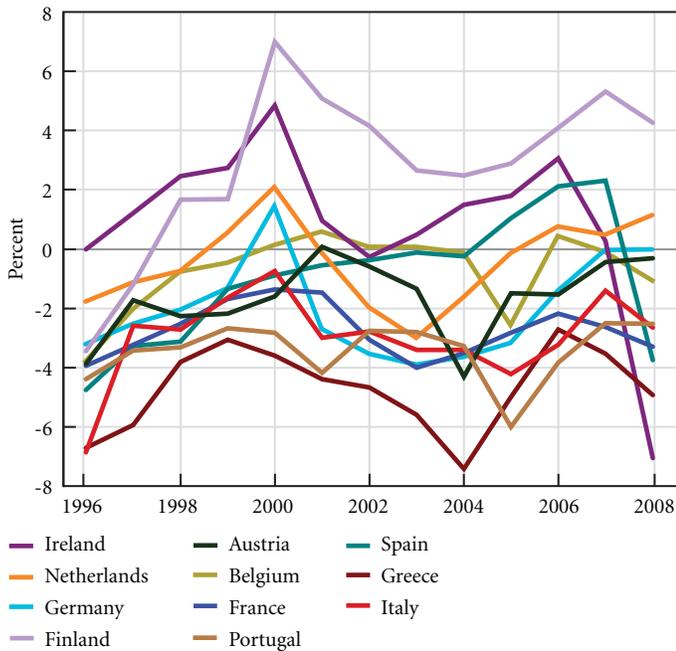
On the other hand, sustained budget surpluses drain reserves and can eventually cause bank reserve positions to fall short of what is desired or required. Over the short term, the central bank provides needed reserves through open-market purchases. Over the longer term, the treasury rectifies the reserve drain by retiring outstanding debt. In effect, the public surrenders its interest-earning sovereign debt in order to pay “excessive” taxes resulting from budget surpluses that would otherwise drain reserves from the banking system.

Bond sales (or purchases) by the treasury and central bank are ultimately triggered by the deviation of reserves from the desired (or required) position of the banking system that causes the overnight rate to move away from target (if the target is above zero). Bond sales by either the central bank or the treasury are properly seen as part of monetary policy that is designed to allow the central bank to hit its target rate, which is “administered” exogenously by the central bank. The central bank sets its target rate according to its belief about how it will impact a range of economic variables within its policy objectives. In other words, setting the rate “exogenously” does not imply that the central bank is oblivious to perceived economic and political constraints (whether these constraints and relationships actually exist is a different matter). The central bank might raise its interest rate target if, for example, it believes that government deficits will devalue the currency and cause inflation. However, the interest rate hike is discretionary and not a direct result of market reactions. (Readers will note that the usual “crowding out” or “loanable funds” theories have it wrong: budget deficits place downward pressure on interest rates, while budget surpluses push these rates up.)

Banks prefer interest-earning treasury debt over non-interest-earning (undesired or nonrequired) excess reserves, so there is no problem selling treasury debt. Also note that if banks did not prefer to buy government bonds, the treasury (and central bank) would simply avoid selling them, and, indeed, would not *need* to sell the debt, as the banks would prefer to hold non-interest-earning reserves. In other words, far from requiring the treasury to “borrow” by selling new issues, government deficits would only require the central bank and treasury to drain excess reserves and avoid downward pressure on overnight interest rates. This means that widespread fear that the “markets” might *not* buy, say, Mexican or Pakistani treasury debt if they deem budget deficits to be excessive is erroneous: bonds are not sold to “borrow” but rather to drain excess reserves. If the “markets” prefer excess reserves, then bonds won’t be sold, because there won’t be any pressure to relieve the overnight rate.

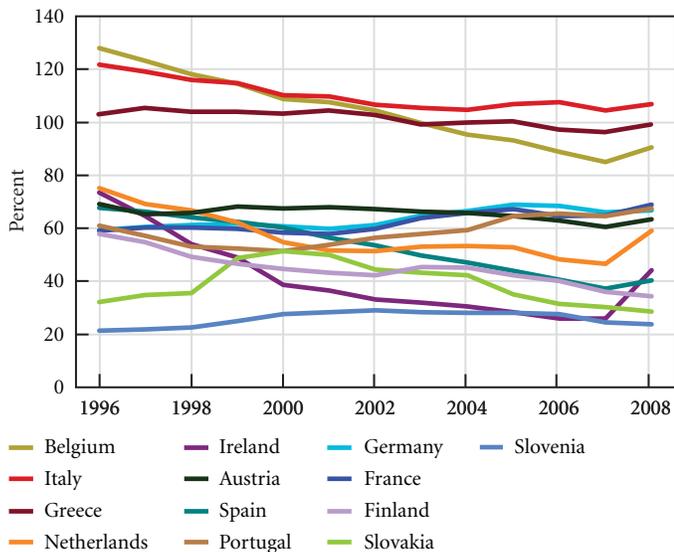
Treasury debt can be eliminated entirely if the central bank pays interest on reserves (as in Canada and, more recently, in the United States) or if the central bank’s overnight interest rate target is zero (as in Japan). In either case, the central bank is able to hit its target regardless of the size of the treasury’s deficit, and there is no need for sales of sovereign debt.

Figure 2 General Government Balance as a Percent of GDP, 1996–2008



Source: ECB

Figure 3 General Government Consolidated Gross Debt as a Percentage of GDP, 1996–2008



Source: ECB

In conclusion, the notion of a “government budget constraint” only applies ex post for a sovereign nation with its own currency, and it makes a statement about a country’s identity rather than any economic constraint. At the end of the year, any increase of government spending will be matched by an increase of taxes, high-powered money (reserves and cash), and sovereign debt held. But this does not mean that taxes or bonds actually “finance” government spending. A sovereign government spends by crediting bank accounts, so its spending can never be constrained by taxes or bond sales (unless it constrains itself through laws, constitutional amendments, or self-imposed operating procedures). Nor can one force a sovereign government to default on its domestic currency commitments, which can always be met by crediting bank accounts.

What About Euroland?

Sardoni and Wray 2006 showed that, while monetary policy has not diverged much between the United States and Euroland, fiscal policy has differed between the two regions. Before the current crisis, U.S. government spending averaged about 20 percent of GDP, and spending net of taxes swung by nearly 7 percent of GDP between the Clinton-era peak budget surplus and the 2000 recession peak budget deficit. (We believe that there will be a swing of more than 10 percentage points over the course of this downturn.) By comparison, the equivalent to U.S. government spending by the European Parliament amounts to about 1 percent of GDP. Obviously, cyclical swings are insignificant for such a “small government” budget, and they cannot stabilize the euro economy. Most government spending in Euroland is decentralized, carried out by member states and subordinate governments. Such spending is large relative to national output, since some countries commonly ran deficits above 3 percent of GDP even before the crisis. No U.S. state budget or debt relative to state output is as large as that of the typical Euroland member state. However, all U.S. states can rely on huge fiscal transfers from Washington during a crisis (such as Hurricane Katrina), and the current crisis is no exception: the federal stimulus package represents hundreds of billions of dollars in relief for state and local governments.

The Stability and Growth Pact constraint on Euroland member-state budget deficits has been pragmatically ignored, as countries routinely exceed the deficit limit of 3 percent. The constraint has probably affected the smaller prospective members

of the EU that have applied fiscal restraints in order to satisfy the conditions for admission, as well as many member states that have become more “fiscally responsible” because of perceived budget constraints. Thus, fiscal policy in Euroland has been systematically tighter than that in the United States.

Figure 2 shows Euroland government expenditures as a percentage of GDP for the 1996–2008 period. Although there was initially some convergence toward the 3 percent limit specified in the Maastricht Treaty, there was significant divergence by 2004. And, as discussed above, the European Commission’s interim report of January 2009 projects that many countries will soon exceed this limit by a wide margin, creating an even broader divergence from the 3 percent limit for the budget deficits of EU members.

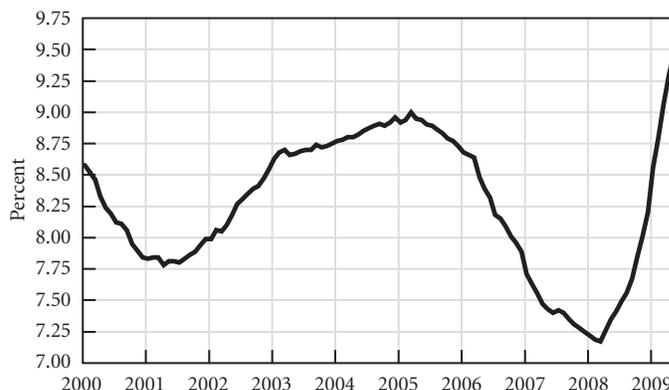
Figure 3 shows outstanding government debt as a percent age of GDP. Apparently, the formation of the euro area has resulted in some fiscal constraints, since state debt ratios have converged (mostly downward) toward the Maastricht benchmark of 60 percent of GDP. However, this trend should reverse as declining output and rising deficits force debt-to-GDP ratios higher.

We reiterate that Ireland’s debt ratio is only 41 percent, which is well below the average for the euro area, yet the country’s interest rate spread relative to the yield in German bonds reached 257 basis points in mid-February, based on fears that Ireland’s rapidly growing deficit could lead to insolvency. This is an important observation, one that is detailed below: even though no euro nation has a “large” deficit or debt ratio relative to what is commonly observed in independent sovereign nations, a euro nation faces “market-imposed” constraints on borrowing because it is not a sovereign country.

It is probable that these fiscal restraints on the nonsovereign member states in the EU have led to a greater reliance on foreign demand as the engine of economic growth. While the U.S. current account deficit has risen steadily over time, Euroland net exports as a percent of GDP have averaged 1.65 percent between 1999 and 2004. Individual member states have tried to increase their net exports (both with other EU nations and with the rest of the world) as their domestic demand declines, but since exchange rates with other EU members are fixed, their only alternative is to maintain or reduce wages and prices internally. This response reinforces fiscal austerity and slow growth.

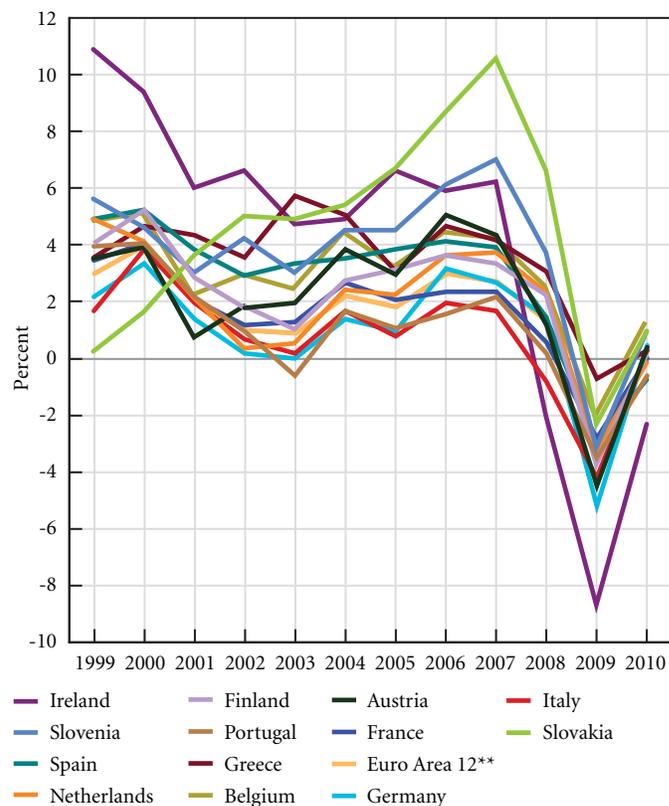
As shown in Figures 4 and 5, Euroland’s unemployment and real GDP growth rates have been subpar. We recognize that many economists blame “barriers” to the operation of free markets for this weak performance, but we mostly blame chronically tight

Figure 4 Euroland’s Unemployment Rate, 2000–09 (in percent)



Source: ECB, Seasonally Adjusted Data

Figure 5 Euroland’s Real GDP Growth Rate, 1999–2010* (in percent)



* Forecast data for 2009 and 2010

** Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain

Source: Eurostat

fiscal policy (as noted in Sardoni and Wray 2006). While unemployment improved slightly in the two years preceding the crisis, unemployment rates have remained high and are trending upward. And despite some acceleration in growth rates in the middle of the decade, the majority of annual growth rates have remained below 3 percent. Moreover, all of the growth rates fell below 2 percent in 2008.

Thus, the economic performance in Euroland has converged to one that is uniformly poor for all members (i.e., chronically high unemployment and slow growth), and the situation has worsened sharply in recent months. While some people attribute this situation to labor market institutions (“coddling” labor), generous social benefits, and so on, we believe that the situation is consistent with nonsovereign nations relying on export-led (mercantilist) policy: Euroland’s annual growth rate rose above 3 percent only when the U.S. economy boomed in 2006–07.

Markets impose constraints on Euroland’s members (and U.S. states) by punishing members that exceed fiscally prudent spending levels (budget deficits). Debt ratings fall and interest costs rise when bond raters downgrade state or local government debt. While rating agencies have at times downgraded sovereign debt, such as Japan’s (and threaten to do the same with the United States), they clearly recognize that there is no solvency problem related to sovereign budget deficits. Any downgrading is attributed to “country risk”—that is, the risk of currency devaluation that might follow from larger budget deficits—and this risk has little impact on interest rates applied to sovereign debt. However, there are solvency risks for state and local governments, so downgrading will impact interest rates on state and local government debt. To be sure, the situation is complex, since markets also weigh the likelihood that a national government will bail out a state or local government.

As Bell [Kelton] 2003 has shown, government debt issued by euro nations has been perceived by markets to be heterogeneous, because national interest rates have actually diverged rather than converged since monetary union, as expected by promoters of the euro. The markets must weigh the risk of default by individual member states as well as the probability of a bailout by the EU. Unlike the case where the U.S. federal government rescued New York State, however, the procedure to bail out a member state is unknown.⁵ The ECB is practically prohibited from taking over the debts of member states, and, although it is impossible to surmise what the ECB might do in a crisis, there is enough uncertainty to create the possibility of a (bank) run

stemming from an individual member’s debt. And, as discussed, there is no central fiscal authority that has anything like the responsibility of the U.S. Treasury. Charles Goodhart (2006) summarizes the problem:

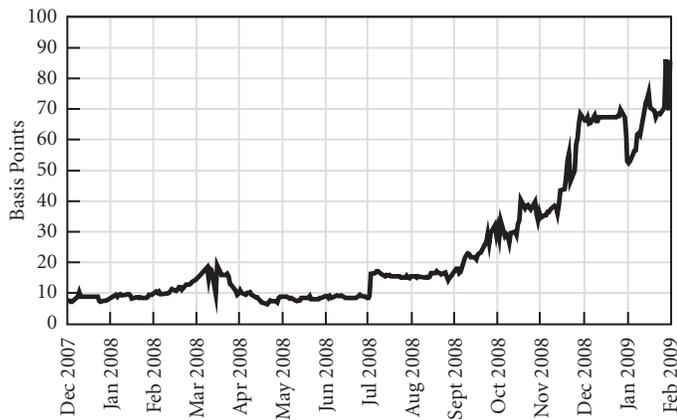
The federal institutions in the EU have neither the ability, nor the wish, to guarantee the deficits of the subsidiary state governments. The ECB is admonished *not* to support failing State governments, and there is no fiscal competence at the federal level either to make inter-regional transfers in response to asymmetric shocks or to support the ECB in meeting the burden of bailing out a failing State government. So the federal government in the EU neither can, nor wants to, carry out its part in the kind of implicit bargains observed in other federal systems. (21–22)

As Goodhart suggests, it really is the flawed fiscal arrangement that poses the most important problem for sustaining European unification. As pointed out earlier, fiscal policy constraints in Euroland have led to consistently sluggish growth and higher unemployment, and these constraints could lead to a catastrophic financial crisis. If a nation’s debt is downgraded, interest rates and government deficits will rise and threaten to set off a vicious cycle of recursive downgrading among member states. The states that are stronger economically will have to provide lower-cost funding to the troubled members by, for example, turning to the European Investment Bank or some other multinational institution that would purchase the debt from distressed governments in order to keep prices up and interest rates down. According to the EU governing treaty, members are not liable for the debts of other members but they can buy those debts. The question is whether a strong member such as Germany would be willing to buy the debt of a downgraded member such as Italy or, even less likely, that of a periphery nation.

Market Perceptions of the Riskiness of Government Debt

Predictably, the global financial crisis has affected the perception of the riskiness of debt, including government debt. One measure of the market’s perception of the risk of default is the credit default swap, which is essentially a speculative bet on the probability of default. First, we look at a measure of the market’s assessment of U.S. default risk. We repeat: there is no default risk

Figure 6 Euro Price of Credit Default Swaps for Five-year U.S. Treasuries, December 2007 – February 2009 (in basis points)



Source: Bloomberg

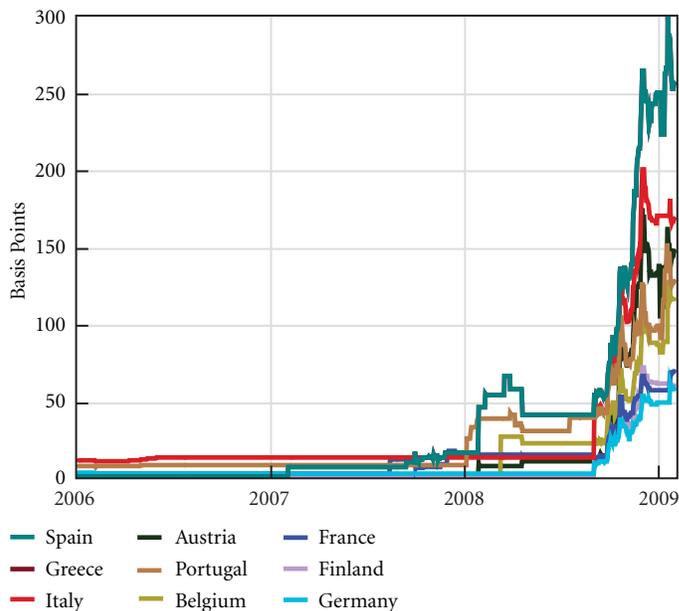
on sovereign government debt. However, for those who believe in such a possibility, there is a way to bet on such an event. Figure 6 shows the euro price of CDSs for five-year U.S. Treasuries. The reason the CDSs are priced in euros is that the dollar would presumably collapse if the U.S. government defaulted on its obligations. The price of “insurance” has risen sharply during the crisis, from less than 10 to more than 60 basis points.

Next, we look at the market’s assessment of risk in Euroland. EU officials are “deeply worried at widening spreads on bonds sold by different European countries,” and they are afraid that “the process could lead to [a] vicious spiral that threatens to tear both the euro and the EU apart” (Waterfield 2009). This is due to growing doubts about the ability of governments in Spain, Greece, Portugal, Ireland, and Italy to cover their debts.

Figure 7 shows the euro price of CDSs for five-year state government debt. As in the case of U.S. Treasuries, prices have risen sharply—from a level similar to and then much higher than U.S. Treasuries. For example, CDS prices were as high as 300 basis points for Spanish treasuries, 200 basis points for Italian treasuries, and 150 basis points for Austrian treasuries. Only Germany, France, and Finland enjoyed CDS prices as low as those for U.S. government debt.

It is important to note that CDS prices for U.S. Treasuries are climbing in the face of government commitments greater than \$8 trillion, or two thirds of GDP. By contrast, CDS prices for Euroland treasuries are also rising in the context of a crisis, but

Figure 7 Euro Price of Credit Default Swaps for Five-year Euro State Government Debt, 2006–09 (in basis points)

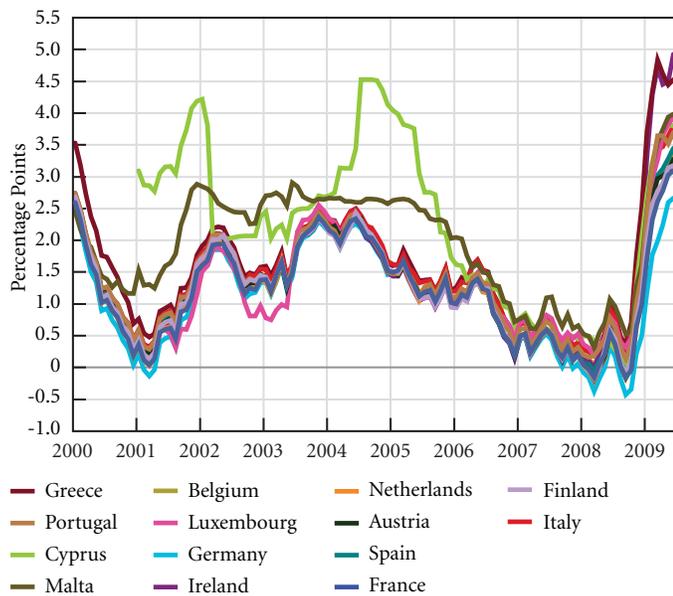


Source: Bloomberg

with relatively small budget deficits and low debt ratios, and with little prospect for fiscal and monetary stimulus packages commensurate with those in the United States. In other words, while we believe markets are wrongly interpreting the possibility of U.S. government default (which is zero), it is understandable that some market participants have “voted against” U.S. policies that have committed huge sums of money to various bailouts (and the strong likelihood of additional commitments). By contrast, the much larger increase in CDS prices for some euro nations is feeding a legitimate fear that these nations might default.

Leading up to the official launch of the euro, Robert Mundell (1998) conjectured that the government bonds issued in the post-European Monetary Union era would become “almost” perfect substitutes. But financial markets never priced them that way, as evidenced by the persistent (and now sharply widening) bond yield spreads. Figure 8 shows Euribor spreads for 10-year government bonds since 2000. Despite the fact that all member governments issue “identical” (euro-denominated) debt, the capital markets clearly perceive a difference between countries. Thus, while every government bond promises to repay euros in the future, financial markets view some promises as better than others. Spreads vary across time and by member, and they have widened tremendously during the current economic downturn,

Figure 8 Euribor Spreads* for 10-year Government Bonds, 2000–09 (in percentage points)



*Monthly average of one-week Euribor rate

Sources: ECB; euribor.org

indicating that liquidity and/or default risk are expected to rise. Further, spreads also increase when a nation’s fiscal position deteriorates (presumably for the same reason).

It is impossible to determine precisely how much of each spread is due to liquidity risk premia versus credit risk premia; we only know that it must be one or the other, or some combination of the two. The challenges of sovereign bond issuance are tied to concerns over rising budget deficits and public debt levels. Commenting on the widening of bond yield spreads during the second quarter of 2000, the European Commission (EC 2000a) opined that at least part of the divergence was due to “the renewed focus on liquidity by major investors to the detriment of smaller bond issues from Member States with limited financing needs.”

The perceived liquidity of an issuer’s debt reflects the expected ease with which that issuer’s bond can be converted into euros at a reasonably certain price. Liquidity is related to both the quantity of outstanding bonds (i.e., the stock) and the issuing volume of new debt (i.e., the flow). In the next section, we try to sort out what determines national interest rate spreads.

Financing Euro Budget Deficits in a Hostile Environment

Euroland officially entered a recession when its GDP declined 0.2 percent in the third quarter of 2008. As a result, budget deficits from Berlin to Dublin exploded and governments adopted countercyclical “stimulus packages” to try to cope with the deteriorating economic situation (as in the United States). Unfortunately, these spending increases have fueled concerns about the impact on government debt levels, and even the future of the euro, rather than shoring up investor confidence within Euroland.

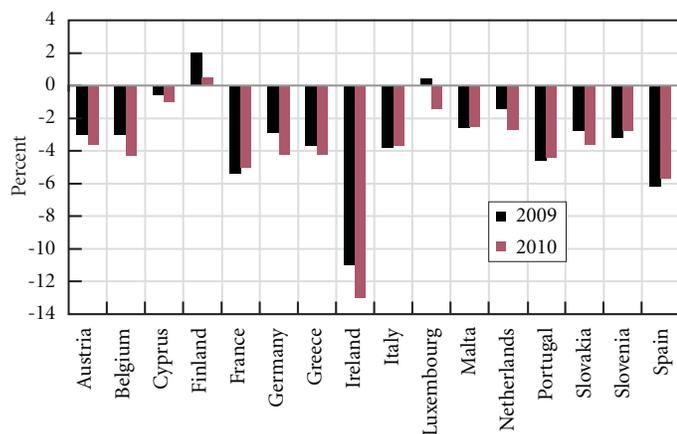
Nearly half of all member states are projected to breach the 3 percent deficit-to-GDP limit (some states for the first time). Some of the impact on public budgets is happening endogenously as tax receipts drop off and automatic stabilizers kick in. But public finances are also impacted by the adoption of discretionary measures by member states. In total, the EC estimates that the fiscal stimulus (including nondiscretionary spending) will amount to about 4 percent of GDP through 2010 and push Euroland’s deficit-to-GDP ratio to an average of 4 percent. The expanded deficits, together with sizable “below the line” operations,⁶ should push debt levels to about 73 percent of GDP in 2009 and 76 percent in 2010 (EC 2009).

But all of this debt has to be purchased in private capital markets, where financial conditions have tightened substantially in the wake of the meltdown. This is causing major problems for member governments that must find buyers for their bonds. The sharp increase in projected debt levels has intensified competition between sellers and forced some states to pay markedly higher rates in order to compensate lenders for the state’s perceived risk and liquidity problems.

Figure 9 shows the projected budget positions for each EU-16 member state. Only five countries are expected to avoid breaching the 3 percent budget-deficit rule during the next two years, but their fiscal positions will also “deteriorate.” As a result, the demand for credit has risen sharply and the financial markets have begun to avert certain issues. To some extent, this is old hat: bond yields on member debts have never converged as predicted following the introduction of the euro. But financial markets aren’t just requiring a few extra basis points here and there; they are expressing an unprecedented preference for issues of the German treasury.

The heightened preference for the bund has undoubtedly been influenced by the rating agencies (Standard & Poor’s, Fitch,

Figure 9 Projected EU-16 Budget Positions, 2009–10 (in percent)



Source: European Commission, Interim Forecast, January 2009

and Moody’s), which have fueled concern over the sustainability of public finances (and hence, the servicing of public debt). Concerns heated up on January 14, 2009, when Standard & Poor’s cut Greece’s rating from A to A- and placed Ireland, Portugal, and Spain on “negative credit watch.” Days later, it dropped Spain’s rating from AAA to AA+, citing concerns over the government’s ability “to prevent years of weak growth and a ballooning deficit” (Hay 2009). On January 21, it dropped Portugal’s rating from AA- to A+. This string of downgrades fueled speculation that the future of the 16-member currency bloc was in doubt, and caused markets to raise the premium on non-German issues.

As shown in Figure 10, the result has been a dramatic widening of yield premiums against the German bund. An increase in bond-yield spreads indicates a relative preference for German issues and raises the cost of borrowing by other governments. Financial markets have required steep price increases to compensate for the heightened risk of default and for the reduced liquidity of financial assets in general. The difference between German and Spanish yields has reached its widest spread since the introduction of the euro in 1999. Unfortunately, there are negative feedback loops because of the nature of the euro, so a rising deficit can lead to the downgrading of public debt and induce the financial markets to demand higher premiums, which raises interest costs and increases the deficit.

In addition to the discipline being imposed by rating agencies and financial markets, member governments may soon face

Table 1 Five-year Credit Default Swap Rates: Bid/Ask Prices, February and August 2009 (in basis points)

	February 2009	August 2009
Austria	245/260	61/65
Belgium	152/162	33/37
Finland	87/97	21/25
France	88/95	22/26
Germany	88/92	21/24
Greece	250/270	102/106
Ireland	360/380	140/150
Italy	185/197	62/66
Netherlands	118/132	33/38
Norway	50/60	19/23
Portugal	138/150	46/50
Spain	144/154	57/60

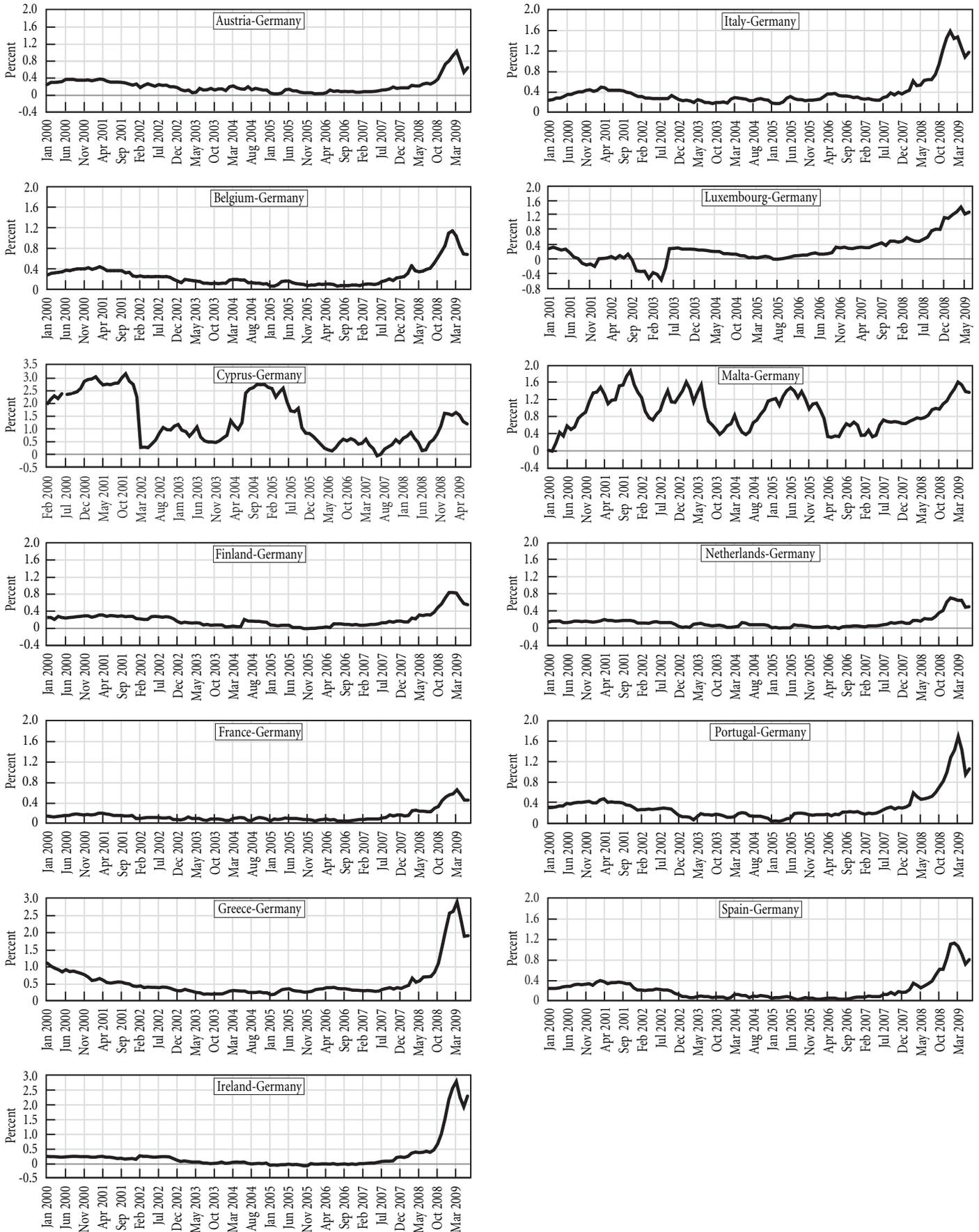
Source: Bloomberg

pressure from the European Parliament. France has requested that members be given additional leeway to deal with the economic downturn but Joaquin Almunia, the EU’s monetary affairs commissioner, has warned that Parliament may act against states that “have recorded or plan deficits above the three percent barrier,” adding that they intend to defend the “procedures established in the [EU] treaty” (EUbusiness.com 2009). No action has been taken so far, but the EU’s executive arm is planning to scrutinize the budgetary positions of France, Germany, Greece, Ireland, Malta, the Netherlands, and Spain, among other countries, to determine whether action is needed.

These statements intensify frustration among member states and fuel speculation that some states may simply abandon the euro. Financial markets can hedge against the risk of default (as a consequence of leaving the euro) by purchasing CDSs. As indicated in Table 1, the markets have been concerned mostly about the possibility of default in Ireland, Greece, and Austria, where the price of protection on five-year bonds has risen 360, 250, and 245 basis points, respectively (as of February 23, 2009).

As the market liquidity crisis appeared to attenuate, and in response to many recent optimistic reports of “green shoots” in the United States and abroad, the price of CDS “insurance” has fallen, as shown in the final column of Table 1. Still, the price of

Figure 10 Ten-year Government Bond-yield Spreads (German Benchmark), January 2000 – June 2009 (in percent)



Sources: ECB (2001–09); Eurostat (2001)

“insurance” for Ireland is more than six times higher than that for Finland, France, Germany, and Norway (which is on the periphery of the euro zone and the EU and therefore fares much better). Since members of the EU-16 no longer issue a sovereign currency, they are at the mercy of financial markets when it comes to exercising discretion over fiscal policy.

Although the price of CDS insurance on Irish bonds remains relatively high, ECB President Jean-Claude Trichet insists that Ireland is not the euro area’s “weak link” (*The Irish Times* 2009). Unfortunately for Ireland, the markets disagree. Once markets begin to perceive a nation as a “weak” issuer, they can effectively shut down a nation’s ability to stabilize conditions within its borders. This is the fundamental weakness of the euro zone that we have warned about since its inception. This means that bonds issued by Greece, Portugal, Ireland, and Italy are perceived to be instruments with less liquidity than those issued by Germany, France, or Finland. Even though the government debt of all member states is homogenous in terms of denomination, bonds issued by the smaller countries “will not have the same liquidity as those of larger countries” (*The Irish Times* 2009). As a result, investors demand additional protection from smaller issuers in the form of a liquidity premium, thereby causing bond-yield spreads to diverge. As Jerry Jordan (1997) recognized long ago, this creates a vicious cycle:

The risk for the fiscal authorities of any member country is that the “dismal arithmetic” of the budget constraint leaves few palatable alternatives. If the yield on government securities demanded by markets exceeds a country’s nominal income growth, then interest expense on the outstanding debt must become a relatively larger burden. (3)

In a country like the United States, this prospect should never cause financial stress, because the U.S. government can always meet any dollar-denominated commitments that come due by crediting bank accounts. But markets clearly recognize that things work differently in the euro zone, where governments can no longer “print money.” As a result, the bonds issued by these governments resemble those issued by state and local governments in the United States (or by provinces in Canada or Australia), where yields often differ by a sizable amount.

Several studies of U.S. state bond markets show that yields mainly reflect the market’s assessment of default risk. For example, Bayoumi, Goldstein, and Woglom 1995 and Goldstein and

Woglom 1992 conclude that bond yield differences are correlated with the quantity of outstanding state debt and the state’s fiscal balance. Specifically, they find that lenders are likely to calculate the probability of default at a relatively high rate when state debt levels are relatively high, thereby increasing premiums on bonds issued by these states. If individual U.S. states interpret rising yields to signal market resistance, then default premia can play a “positive role in disciplining irresponsible, sovereign borrowers” (Bayoumi, Goldstein, and Woglom 1995, 00).

Within the euro zone, fiscal discipline is supposed to be ensured by the Stability and Growth Pact. The Pact, which was ratified at the June 1997 Amsterdam Summit, strengthens the surveillance of member states by forbidding countries from running deficits in excess of 3 percent of GDP or carrying debts in excess of 60 percent of GDP. In the event that a country does not fulfill these fiscal criteria, the Excessive Deficit Procedure pursuant to Article 104(c) will apply. Under this procedure, deficits above 3 percent of GDP are subject to a fine imposed by the European Council, based upon a report by the European Commission and a judgment by the Monetary Committee.

Some groups (e.g., the European Council) adamantly believe in the necessity of the limits imposed by the Stability and Growth Pact. They argue that the limits “mark an essential condition for sustainable and non-inflationary growth and a high level of employment” (Spiegel 1997, 1). Others (Eichengreen and von Hagen 1995; de Grauwe 1996; Pasinetti 1997; Arestis and Sawyer 1998; Arestis, Khan, and Luintel 2002) suggest that the limits are too restrictive and that member states should be free to pursue independent fiscal policy without arbitrary limits or penalties. A third group (Wray 1998; Mosler 1999; Bell [Kelton] 2002) believes that the Pact and the Excessive Deficit Procedure probably don’t constrain government spending, so increasing (or dispensing with) the arbitrary limits would do little to increase fiscal freedom. This argument is based on the notion that financial markets (by pricing risk) are likely to discipline member governments even *before* the Maastricht Treaty limits are reached. This notion appears to be the case, with market sentiment influenced by the global financial collapse.

While some argue that member states can still service higher debt levels because they retain the power to alter tax rates (e.g., Eichengreen and von Hagen 1995), others recognize that euro governments are seriously constrained in this regard. Jordan argues that “the prospect of higher taxes would cause the factors of production to migrate . . . [so that] higher tax rates could,

eventually, shrink the tax base” (1977, 3). Christopher Taylor agrees, suggesting that, despite “their substantial revenue-raising powers,” member states will “be increasingly constrained by the pressure of ‘fiscal competition’” (1999, 16). Further, higher taxes lead to declining economic performance, which increases the deficit and leads to another sort of vicious cycle.

This “fiscal competition” is the direct result of Article 104. Because member states can no longer create spendable deposits internally (i.e., “print” money), they must compete for euros by selling bonds to private investors (including private banks), who clearly do not view the various obligations as perfect substitutes. Thus, governments must float bonds on the capital market, where they vie with debt instruments offered by other government (and nongovernment) entities. Some nations compete for benchmark status (e.g., Germany and France), while others jockey for relative advantages in the pricing of risk. To the extent that policymakers pursue these objectives vigilantly, they assign a less important role to goals such as stabilizing output and employment.

We note that even as spreads have widened in Euroland, market assessment of risk on local government debt in the United States has actually declined—a rather remarkable contrast. Why is this happening? Although we are not sure, perhaps it is a vote of confidence in the stimulus and bailout packages in the United States. Historically, defaults on municipal debt are rare (an exception is Orange County, in California), and there is the expectation that the federal government can and will rescue state and local governments. There is no such assurance in Euroland.

Conclusion

Following the switch to the euro, most economists expected yields on sovereign bonds issued by euro-zone governments to converge. With a massive euro-denominated market for sovereign debt and no country-specific exchange rate risk or currency risk, dealers were expected to view the issues of Euroland governments as more or less homogeneous. But things did not unfold as expected. There was convergence to slower economic growth and higher unemployment, and, initially, to tighter fiscal stances.

Markets continued to differentiate between issues on the basis of liquidity. As evidence, even AAA-rated bonds issued by small governments with limited issuing volumes were “still

obliged to offer investors a spread over bonds from benchmark issuers” (EC 2000b). While this probably accounts for some of the *persistence* in yield differentials, it seems clear that credit risk has emerged as the primary cause of the *divergence* of bond-yield spreads—especially as the global financial crisis unfolded. And since ratings agencies made it clear that they would take into account possible increases in fiscal deficits when assigning credit ratings to EU state governments, fiscal competition intensified. Until something is done so that these states can avert such financial constraints—for example, establishing a federal (EU) budget or a new lending institution (to aid states in pursuing a broad set of policy objectives)—the prospect for stabilizing the euro zone appears grim.

The European Commission presented its “European Economic Recovery Plan” in November 2008. It cautioned that Euroland could experience a deep and protracted recession unless “swift and decisive” policy action was taken (EC 2009). The problem is that Euroland lacks a fiscal entity such as the U.S. Treasury that has the ability to provide a significant budgetary stimulus. The Plan calls for a fiscal stimulus that translates to only 1 percent of GDP—a small amount that cannot provide the “decisive” policy action needed to prevent a downward economic spiral. Thus, Euroland must depend on a combination of automatic stabilizers and discretionary fiscal stimulus policies at the state level to stimulate an economic recovery.

The European Commission is fairly optimistic in forecasting a “certain recovery of growth” beginning in the second half of this year. Specifically, it projects that real GDP will contract by about 2 percent in 2009 in both the EU and the euro zone before turning slightly positive in 2010. Although GDP is predicted to rebound, the Commission’s unemployment forecast is far less rosy, with an average unemployment rate that could exceed 10 percent by next year. The Commission notes that its forecast “depends crucially” on the passage of a sufficiently large fiscal stimulus package (5.5 percent or more) in the United States, which has already emerged as the lender of last resort by extending hundreds of billions of dollars to the ECB through swap-line arrangements. As we have argued elsewhere (Bell [Kelton] 2003, Sardoní and Wray 2006), the problem for EU governments is inherent in the nature of the monetary arrangement itself. Without support from the United States as the lender of last resort, in combination with sizable U.S. current account deficits, Euroland economic recovery remains uncertain.

Rating agencies have not proven very prescient over the past decade in giving AAA ratings to securitized junk—a business model that we now know was nothing more than a massive Ponzi scheme. And even now, these agencies continue to error in rating government debt. For example, Standard & Poor’s indicated that its decision to downgrade Spanish debt was based on the belief that the Spanish government would be unable “to prevent years of weak growth and a ballooning budget deficit” (Hay 2009). By contrast, Fitch left its rating of Spanish debt unchanged, citing the country’s beneficial membership in the euro zone. But this membership in its current form locks governments into years of weak economic growth. Since the crisis cannot be addressed without ballooning budget deficits, the downgrading of EU-member debt is adding to the cost of borrowing, and reducing the likelihood that the crisis can be mitigated by a sufficiently large fiscal expansion.

Following the downgrading of Greek, Spanish, and Portuguese debt, Standard & Poor’s indicated that its decision was based, at least in part, on concerns about deteriorating public finances and persistently low growth. But low growth will be the norm as long as governments are unable to expand their balance sheets *without restraint* in the face of insufficient aggregate demand. A spokesperson for Standard & Poor’s explained the agency’s rationale for downgrading Portuguese debt:

In our opinion, Portugal faces increasingly difficult challenges as it tries to boost competitiveness and lift persistently low growth. . . . This, together with a heavy general government debt burden, leads us to believe that Portugal is unlikely to make the necessary structural improvements to remain in the AA peer group.” (Bugge 2009)

Rating agencies have also threatened to downgrade U.S. treasury debt due to “ballooning” budget deficits and various commitments associated with the bailout. As we have argued throughout this brief, there is no reason to downgrade U.S. government debt because it is sovereign debt with no default risk. The only way out of this mess is to use sovereign power that exists in countries such as the United States, the UK, and China, and ramp up government spending. By contrast, the outlook for Euroland is bleak unless it forms a “more perfect union” by investing in the fiscal authority of the European Parliament, so that this authority is on par with the U.S. Congress. This action is easy enough in terms of economics, accounting, and budget-

ing. However, it could be politically, culturally, and socially difficult, and the degree of difficulty has increased commensurate with Euroland’s expanding membership.

In some respects, allowing lower-income periphery nations to join the euro zone is similar to the United States’ encouraging Mexico to join a dollar union. On the one hand, we admire the willingness of the EU and Euroland to embrace its new members. On the other hand, we suspect that expansion has made the prospects for changing the structure of the union virtually impossible. Hence, there remains the possibility of a trend toward dissolution rather than greater unification.

Notes

1. A broader measure totals \$23.7 trillion, which includes Treasury and Federal Reserve Bank loans, along with guarantees of private assets held in the private sector.
2. The Obama administration has proposed a \$2.94 trillion budget for fiscal year 2009 and a \$3.55 trillion budget for fiscal year 2010.
3. Early estimates for the second quarter showed GDP falling at an annual rate of 1 percent, but this rate appears to be highly inconsistent with other data (e.g., the number of hours worked in the second quarter declined at a 7 percent pace). Although we expected GDP to be revised downward, this apparently was not the case, as second-quarter GDP was recently revised upward, to minus 0.7 percent.
4. As Mehrling (2008) explains, “The Fed stepped in to take over AIG, the ailing insurer, on September 16. The next day the Treasury announced what it called its ‘Supplementary Financing Program’ and the day after that the Fed announced the establishment of currency swap lines with other central banks.”
5. Joaquin Almunia, the European commissioner for economic and monetary affairs, recently announced that there is a “secret” plan to deal with euro area member states threatened with default. We do not know if his plan is any more substantial than President Nixon’s secret plan for ending the war in Vietnam.
6. Below-the-line operations include actions taken to rescue troubled financial institutions such as the recapitalization of banks and loans to private enterprises.

References

- Arestis, P., and M. Sawyer. 1998. "Prospects for the Single European Currency and Some Proposals for a New Maastricht." Draft manuscript.
- Arestis, P., M. Khan, and K. B. Luintel. 2002. "Fiscal Deficits in Monetary Unions: A Comparison of EMU and the United States." *Eastern Economic Journal*, Vol. 28, no. 1 (Winter): 89–103.
- Bayoumi, T., M. Goldstein, and G. Woglom. 1995. "Do Credit Markets Discipline Sovereign Borrowers? Evidence from U.S. States." *Journal of Money, Credit and Banking*, Vol. 27, no. 4, Part 1 (November): 1046–59.
- Bell [Kelton], S. A. 2000. "Do Taxes and Bonds Finance Government Spending?" *Journal of Economic Issues*, Vol. 34, no. 3 (September): 603–20.
- . 2002. "Neglected Costs of Monetary Union: The Loss of Sovereignty in the Sphere of Public Policy." In *The State, the Market and the Euro: Chartalism versus Metallism in the Theory of Money*, ed. S. A. Bell and E. J. Nell, 160–83. Cheltenham (UK): Edward Elgar Publishing.
- . 2003. "Neglected Costs of Monetary Union: The Loss of Sovereignty in the Sphere of Public Policy." In *The State, the Market, and the Euro: Chartalism versus Metallism in the Theory of Money*, ed. S. A. Bell and E. J. Nell, 160–83. Cheltenham (UK): Edward Elgar Publishing.
- Bell [Kelton], S., and L. R. Wray. 2002/03. "Fiscal Effects on Reserves and the Independence of the Fed." *Journal of Post Keynesian Economics*, Vol. 25, no 2 (Winter 2002/03): 263–71.
- Bugge, A. 2009. "Update 2: S&P Cuts Portugal Credit Rating, Euro Takes Knock." *Reuters.com*, January 21. www.reuters.com/article/newIssuesNews/idUSLL14624420090121.
- European Commission (EC). 2000a. "Quarterly Note on the Euro-denominated Bond Markets." Issue no. 15 (April–June). Brussels: European Commission. www.europa.eu.int/comm/economy_finance/document/financialmrkt/financialmrkt_en.htm.
- . 2000b. "Quarterly Note on the Euro-denominated Bond Markets." Issue no. 16 (July–September). Brussels: European Commission. www.europa.eu.int/comm/economy_finance/document/financialmrkt/financialmrkt_en.htm.
- . 2009. "Interim Forecast, Directorate-General for Economic and Financial Affairs." Brussels: European Commission. January 19. http://ec.europa.eu/economy_finance/thematic_articles/article13727_en.htm.
- EUbusiness.com*. 2009. "EU Could Move Against Budget Deficits," posted February 16. www.eubusiness.com/news-eu/1234796522.31.
- Eichengreen, B., and J. von Hagen. 1995. "Fiscal Policy and Monetary Union: Federalism, Fiscal Restrictions, and the No-bailout Rule." In *Monetary Policy in an Integrated World Economy: Symposium 1995*, ed. H. Siebert. Schriftleitung (Germany): Harmen Lehment.
- Goldstein, M., and G. Woglom. 1992. "Market-based Fiscal Discipline in Monetary Unions: Evidence from the U.S. Municipal Bond Market." In *Establishing a Central Bank: Issues in Europe and Lessons from the US*, ed. M. Canzoneri, V. Grilli, and P. Masson. Cambridge (UK): Cambridge University Press.
- de Grauwe, P. 1996. "Monetary Union and Convergence Economics." *European Economic Review*, Vol. 40, nos. 3–5 (April): 1091–101.
- Hay, A. 2009. "Update 4: S&P Strips Spain of AAA Rating, Euro Zone Cuts Feared." *Reuters.com*, January 19. <http://uk.reuters.com/article/idUKLJ63209820090119>.
- Irish Times, The*. 2009. "Trichet Denies That Ireland Is 'Weak Link,'" February 20. www.irishtimes.com/newspaper/breaking/2009/0220/breaking35_pf.html.
- Jordan, J. L. 1997. "Money, Fiscal Discipline, and Growth." Speech before the Federal Reserve Bank of Cleveland, September 1.
- Mehrling, P. 2008. "Understanding the Fed's Swap Lines." Economists' Forum Blog, comment posted November 18. <http://blogs.ft.com/economistsforum/2008/11/254/>.
- Mosler, W. 1999. "Overview" and "Introduction." In *The Launching of the Euro: A Conference on the European and Monetary Union*, 11–15, 70–75. Annandale-on-Hudson, N.Y.: The Bard Center.
- Mundell, R. 1998. "Making the Euro Work." *The Wall Street Journal*, April 30. <http://phoenix.liu.edu/~uroy/eco41/mundell/mundell7.htm>.
- New York Times, The*. 2009. "Adding Up the Government's Total Bailout Tab," February 4. www.nytimes.com/interactive/2009/02/04/business/20090205-bailout-totals-graphic.html?emc=eta3.
- Pasinetti, L. L. 1997. "The Myth (or Folly) of the 3 Percent Deficit/GNP Maastricht 'Parameter.'" Draft manuscript.

- Pfanner, E. 2009. "Europe Slump Deeper than Expected." *The New York Times*, February 14. www.nytimes.com/2009/02/14/business/14euro.html?_r=1.
- Sardoni, C., and L. R. Wray. 2006. "Monetary Policy Strategies of the European Central Bank and the Federal Reserve Bank of the United States." *Journal of Post Keynesian Economics*, Vol. 28, no. 3 (Spring): 451–72.
- Spiegel, M. M. 1997. "Fiscal Constraints in the EMU." Economic Letter No. 97-23. Federal Reserve Bank of San Francisco, August 15.
- Taylor, C. 1999. "Payments Imbalances, Secession Risk, and Potential Financial Traumas in Europe's Monetary Union." Manuscript.
- Waterfield, B. 2009. "European Bank Bail-out Could Push EU into Crisis." *Telegraph* (London), February 11. <http://www.telegraph.co.uk/finance/financetopics/financialcrisis/4590512/European-banks-may-need-16.3-trillion-bail-out-EC-dcoument-warns.html>.
- Watts, W. L. 2009. "S&P Cuts Greece's Credit Rating: Euro-zone Bond Spreads Widening on Credit Worries." *MarketWatch*, January 14. www.marketwatch.com/story/sp-cuts-greeces-credit-rating.
- Wray, L. R. 2007. "A Post Keynesian View of Central Bank Independence, Policy Targets, and the Rules versus Discretion Debate." *Journal of Post Keynesian Economics*, Vol. 30, no. 1 (Fall): 119–141.
- . 2006. "To Fix or to Float: Theoretical and Pragmatic Considerations." In *Monetary and Exchange Rate Systems: A Global View of Financial Crises*, ed. L.-P. Rochon and S. Rossi, 210–31. Cheltenham (UK): Edward Elgar Publishing.
- . 1998. *Understanding Modern Money: The Key to Full Employment and Price Stability*. Edward Elgar Publishing, 1998. Also: *El papel dinero hoy: La clave del pleno empleo y la estabilidad de precios*, trans. G. Feher. Mexico City: Universidad Nacional Autonoma de Mexico, 2006.

About the Authors

Research Associate STEPHANIE A. KELTON is an assistant professor at the University of Missouri–Kansas City and a research scholar at the Center for Full Employment and Price Stability. Her primary research interests include monetary theory, international economics, employment policy, social security, and European monetary integration. She has contributed chapters to numerous edited volumes and has published articles in the *Journal of Economic Issues*, *Cambridge Journal of Economics*, *Journal of Post Keynesian Economics*, *Review of Social Economy*, and *International Journal of Political Economy*. Her book *The State, The Market, and the Euro: Metallism versus Chartalism in the Theory of Money* (edited with E. J. Nell) was issued by Edward Elgar in 2003. Kelton has a B.S. in business administration and a B.A. in economics, both from California State University, Sacramento. She earned an M.Phil. in economics at the University of Cambridge while on a Rotary Scholarship, and completed her Ph.D. at the New School for Social Research.

Senior Scholar L. RANDALL WRAY is a professor of economics at the University of Missouri–Kansas City and director of research at the Center for Full Employment and Price Stability. He is currently working in the areas of monetary policy, employment, and social security. Wray has published widely in academic journals and is the author of *Money and Credit in Capitalist Economies: The Endogenous Money Approach* (Edward Elgar, 1990) and *Understanding Modern Money: The Key to Full Employment and Price Stability* (Edward Elgar, 1998). He is also the editor of *Credit and State Theories of Money: The Contributions of A. Mitchell Innes* (Edward Elgar, 2004) and coeditor (with M. Forstater) of *Keynes for the 21st Century: The Continuing Relevance of The General Theory* (Palgrave Macmillan, 2008). Wray holds a B.A. from the University of the Pacific and an M.A. and a Ph.D. from Washington University in St. Louis.