2

From Convoy to Parting Ways?
Postcrisis Divergence Between European and US Macroeconomic Policies

JEAN PISANI-FERRY and ADAM S. POSEN

The initial response in 2008–09 to the global financial crisis was in many ways a high-water mark for transatlantic policy coordination and, as important to crisis resolution, for common economic understanding. The major economies of the European Union and the United States came to rapid agreement on a series of measures to limit the crisis, including coordinated interest rate cuts by central banks, extension of deposit guarantees, provision of liquidity and in some cases capital to systemically important financial institutions, significant fiscal stimulus, increased resources for the International Monetary Fund (IMF), and resistance to trade protectionism or beggar-thy-neighbor exchange rate policies. These efforts, which paid off, were amplified through the establishment of the Group of 20 (G-20) at the level of heads of state and government and through the involvement of all its member economies, but they were undoubtedly driven by the common transatlantic approach.

The common EU-US approach to crisis response emerged in the few weeks after the Lehman Brothers debacle in September 2008, overcoming years of disagreement across the Atlantic on many issues (Cohen and Pisani-Ferry 2007). By the time the Group of Seven (G-7) finance ministers met on October 10–11, 2008, agreement on the immediate response to the banking crisis had essentially been reached. And by the time the G-20 leaders met in

Jean Pisani-Ferry is the director of Bruegel, the Brussels-based economics think tank, and professor of economics at Université Paris-Dauphine. Adam S. Posen is an external member of the Monetary Policy Committee of the Bank of England and a senior fellow at the Peterson Institute for International Economics. *They are grateful to the European Commission for its support of this project and to Christophe Gouardo, Tomas Hellebrandt, and Neil Meads for excellent research assistance. The views expressed here are solely those of the authors and cannot be attributed to the Bank of England, Bruegel, Peterson Institute for International Economics, or the Commission.*

November 2008, there was agreement on the desirability of a budgetary stimulus. And when the G-20 leaders met again in London in April 2009, all the building blocks of the common response were in place.

This response was forged as much by European leadership and creativity as by any initiatives from the US government, then in transition to a new presidential administration. Difficulties from divergences within the euro area that emerged in 2010 should not obscure the degree of previous cooperation. In particular, the UK government showed leadership on the response to banking problems, while the European Central Bank (ECB) set a model for other central banks in terms of rapidly finding means to provide liquidity to the banking system. On fiscal policy, there was certainly less intra-EU coordination than was advocated by the European Commission in autumn 2008, and the discretionary component of the stimulus was smaller in Europe than in the United States—but most economies with fiscal space went well beyond the automatic stabilizers. Certainly, there were differences in the form of the policy responses, such as the adoption of quantitative easing by the US and UK central banks, and its rejection by the ECB. But these differences were not a source of tension, let alone a cause of major divergence.

That agreement and common approach has since unraveled. Where the economic policymakers had been traveling in convoy in 2008–09, toward a common destination at a common velocity, protecting each other's flanks, in 2010 policy divergences between the United States and Europe emerged, and they have come to dominate the international discussion on macroeconomic policy priorities. This is most visible in the budgetary field, where transatlantic divergences dominated international discussions in the run-up to the Toronto G-20 summit of June 2010. US calls for a cautiously gradual exit from fiscal stimulus were rebuffed by the Europeans, who put emphasis on consolidation; and the summit itself confirmed this trend with its all-encompassing, G-7-style communiqué. On the monetary side, the central banks' stance also started to diverge, at least as regards announcements concerning inflation risks and the imminence of exit. True, the actual policies pursued to date were not as dissimilar as suggested by public statements. Germany in particular sounded very hawkish on fiscal policy in spring–summer 2010, but its actual consolidation program was markedly cautious for the short term. Nevertheless, words are indicative of differing policy directions.

Divergence was made all the more visible in Toronto in a context where discussions on policy priorities between advanced and emerging-market countries, which were expected to dominate the agenda, had become less pressing. Contrary to the initial assumptions behind the G-20-sponsored "mutual assessment process," it became evident in spring 2010 that domestic demand in the emerging-market world was in fact shockingly buoyant, and that there was no urgency to stimulate it. The absence of a North-South rift made room for a more traditional, G-7-like transatlantic divergence.

The question, however, is why the initial "London consensus" has not survived for much more than a year, making room for the "Toronto divergence." Several competing explanations are on offer. One emphasizes differentiated economic and financial structures as the origin of the dissimilar impacts of a common shock. According to this view, governments merely respond to different domestic economic developments—which a large part of the literature on coordination suggests is right as well as politically consistent. Another view stresses differences in the policy setup arising from institutional constraints, especially (though not only) as a result of the European Union's particular policy setup. A third one puts the onus on doctrine and ideology, which create different perceptions of the policy challenges and risks faced by policymakers. Which of these have mattered and still matter, and which have not and do not, is what we aim to clarify in this chapter.

From a policy standpoint it is indeed important to understand what motivates divergence, because different causes suggest different types of remedial actions, if any, and the desirability of those actions. To shed light on the issue, we start with an analysis of the different impacts across the Atlantic of the common shock from the financial crisis. We then take up successively monetary policy and fiscal policy. Next we summarize our findings and turn to international implications and policy recommendations in the last section.

Economic Developments

The first reason for policies to differ is that they have to deal with different problems. So the first question to ask is whether economic developments in the United States and Europe have warranted (or still warrant, going forward) asymmetric policy reactions.

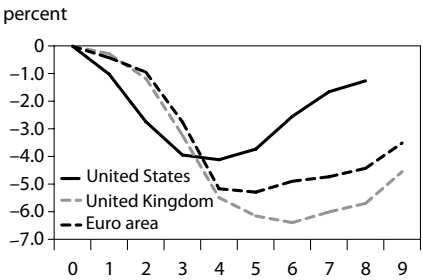
Growth, Employment, and Productivity

To start with basic facts, figure 2.1 compares the evolution of GDP, employment, output per hour, and nonresidential investment in the United States, the euro area, and the European Union. Both the common character of the shock and some significant differences in later developments are apparent:

- First, US GDP declined less and recovered faster than GDP in either the euro area or the United Kingdom—though it remains early days for a recovery that seems to be weakening in the United States and perhaps strengthening in northern continental Europe.
- Second, US employment declined much more than European employment and did not start exhibiting feeble signs of recovery until early 2010. Consequently, the 2008–09 employment decline was exceptionally deep and prolonged in the United States, whereas in Europe (including the United Kingdom) it was by no means exceptional.

Figure 2.1 Impact of the crisis in the United States, euro area, and United Kingdom (movements in quarters from prerecession output peak)

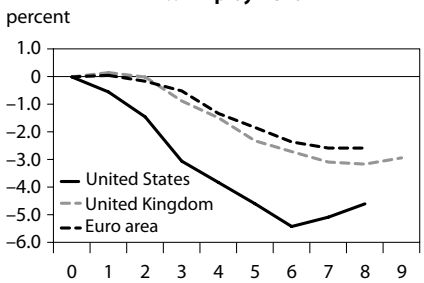
a. GDP



Note: Prerecession output peak is first quarter 2008 for the euro area and United Kingdom and second quarter 2008 for the United States.

Sources: Bureau of Economic Analysis (United States); Office for National Statistics (United Kingdom); and Eurostat (euro area). Data downloaded from Thomson Reuters Datastream.

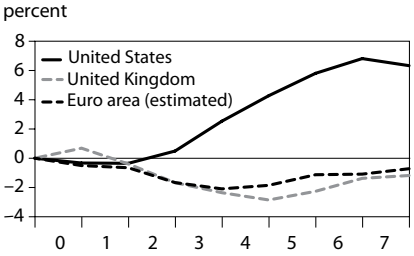
b. Employment



Note: US measure is total civilian employment, UK measure is workforce jobs, and euro area measure is employment. Prerecession output peak is first quarter 2008 for the euro area and United Kingdom and second quarter 2008 for the United States.

Sources: Bureau of Economic Analysis (United States); Office for National Statistics (United Kingdom); and Eurostat (euro area).

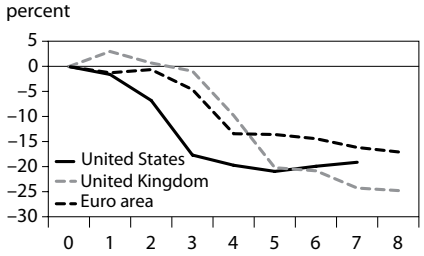
c. Output per hour



Note: US measure is output per hour of all persons, nonfarm business sector, UK measure is whole economy output per hour worked, and euro area measure is output/hours worked (whole economy). Prerecession output peak is first quarter 2008 for the euro area and United Kingdom and second quarter 2008 for the United States.

Sources: Bureau of Economic Analysis (United States); Office for National Statistics (United Kingdom); European Central Bank (hours worked [whole economy], euro area); and Eurostat (output, euro area). Data downloaded from Thomson Reuters Datastream.

d. Nonresidential investment



Note: Euro area measure is based on individual country data for Belgium, Finland, France, Germany, Ireland, and the Netherlands only due to data availability. Prerecession output peak is first quarter 2008 for the euro area and United Kingdom and second quarter 2008 for the United States.

Source: Organization for Economic Cooperation and Development. Data downloaded from Thomson Reuters Datastream.

- Third, as a result, productivity developments have been strikingly divergent. Eight quarters after the start of the recession, output per hour had increased by about 7 percent in the United States, whereas it was still below the initial precrisis level in the euro area and the United Kingdom.

- Fourth, there are no major differences as regards the behavior of investment, despite the differences in growth and in the financial system. It collapsed faster in the United States, but two years after the initial shock, it was in all three cases about 20 percent below its precrisis level.

It is not entirely clear why a large divergence in employment and therefore productivity can be observed between the United States and Europe (where the evolutions in the euro area and the United Kingdom are remarkably similar). Part of the explanation is that US companies, which are less constrained by firing restrictions, traditionally adjust their payrolls faster than European counterparts. But if this was the only reason the evolution in the United Kingdom, where the labor market is traditionally assessed as flexible, should mimic that of the United States.[1] Part has to do with specific shocks affecting the real estate and finance sectors, which had grown very large in the United States and on average much less so in Europe. And part results from the fact that in response to the crisis, several European governments introduced or strengthened schemes aimed at encouraging job preservation, such as the German *Kurzarbeit* (IMF 2010); those policies, however, did not include all countries with limited unemployment rises, such as the United Kingdom. The strength of the postrecession US productivity boom and the subdued productivity response in most of continental Europe (Spain being an exception) both remain puzzling (Wilson 2010).

Private Deleveraging

The strength of domestic demand in the short to medium run largely depends on the extent to which private agents will engage in deleveraging. To assess the comparative situation in the United States, the United Kingdom, and the euro area, table 2.1 shows the changes in levels of indebtedness from 1999 to 2007 and from 2007 to 2009. These data seem to tell a pretty clear story.

In the 2000s households went much more into debt in the United States and the United Kingdom than in the euro area. The contrast is striking, with the rise in household indebtedness as a share of GDP in the United States and the United Kingdom three times larger than for the euro area—and in 1999 the initial levels of household debt in the euro area were already significantly smaller than in the United States. The change in nonfinancial corporate indebtedness offers a more comparable picture transatlantically, though the initial level of debt was again much higher in the US economy.

There are signs that the deleveraging process for households and perhaps nonfinancial corporations has begun in the United States, yet on a limited scale. It is not clear that such a process is inevitable for the euro area as a

1. In Spain—a country where employment has evolved in a way that recalls the United States—employers have made use of the flexibility offered by temporary contracts.

Table 2.1 Changes in indebtedness, 1999–2009 (percent)

	Household			Corporate		
Year	United States	United Kingdom	Euro area	United States	United Kingdom	Euro area
1999	68.38	72.90	49.86	64.51	21.75	37.90
2003	85.31	92.13	53.22	65.86	24.15	40.35
2007	98.15	108.41	60.45	75.34	35.02	48.94
2009	96.34	109.94	62.88	77.15	35.11	52.73
Change 1999–2007	29.77	35.52	10.59	10.83	13.26	11.04
Change 2007–09	–1.81	1.53	2.43	1.81	0.10	3.80

Source: Authors' calculations based on data from national central banks and Eurostat database.

whole—though of course the divergences in indebtedness among member countries are quite enormous (and deleveraging has begun in Ireland and Spain). On the whole, balance sheet data do justify more concern about the risks of sluggish demand and recovery in the United States and the United Kingdom than in continental Europe, while also underlining the greater unsustainability of borrowing patterns on the American side of the Atlantic.

Supply-Side Optimism versus Supply-Side Pessimism

A key factor underlying policy reactions is the size of the negative supply-side shock resulting from the crisis—or at least the perceived size of this nonobservable shock. If policymakers believe—rightly or wrongly—that the GDP declines essentially result from a demand shock, leaving potential output unaffected, they will be naturally inclined to advocate further stimulus. If they tend to believe—again, rightly or wrongly—that the supply-side damage is significant, they will have less appetite for it.

Empirical evidence on the impact of financial crises strongly suggests that they tend to result in significant permanent output losses (see Abiad et al. 2009, Cerra and Saxena 2008, OECD 2010, Meier 2010, and Reinhart and Reinhart 2010). These losses are generally assessed to come through three different channels: first, through the downward revision of precrisis potential output; second, through recession-induced damages to potential output; and third, through damage to the sustainable rate of trend growth. These tend to occur over time, and in part depend on the effectiveness of initial policy response, as seen in the fact that there is considerable variance in country experience and that some countries succeed in minimizing such losses. In the 1990s Sweden, for example, succeeded in entirely recovering initial output losses. Economic analysis indeed suggests that the magnitude of losses depends on institutions and policies as well as on the global context.

Both official policy statements and available estimates from policy institutions suggest that supply-side optimism prevails in the United States, whereas the opposite holds in Europe. In the United States, the adminis-

tration does not consider that the recession resulted in lowering potential output.[2] The Federal Reserve is more cautious in its assessment and does not rule out the possibility of an increase in structural unemployment, but it still regards the increase in unemployment as mostly cyclical.[3] The Congressional Budget Office (CBO 2010) is more pessimistic but even it considers that the medium-term output loss in comparison to precrisis projections should be lower than 2 percent, half of that as a consequence of forgone investment. The view put forward by Minneapolis Fed president Narayana Kocherlatoka, according to whom the equilibrium unemployment rate could have risen by three percentage points, remains a minority view.[4]

In Europe, by contrast, official statements indicate much more concern about the supply-side effects of the crisis. For the euro area, the European Commission (2010) asserted both that precrisis potential output had been overestimated and that the crisis would result in a permanent lowering of potential output. As a consequence, it has significantly revised estimates of potential growth in the euro area and other EU countries downward (and therefore has revised the structural deficit upward), as indicated by figure 2.2, which gives the evolution over time of the output gap estimates for 2007. In addition, the Commission expects postcrisis damages to potential output, and it therefore assesses the permanent output reduction to be of the order of magnitude of 4 percent of GDP, again in comparison to precrisis projections. In the United Kingdom, the new Office of Budget Responsibility[5] created by the current coalition government estimated in June 2010 that potential output in 2015 would be 8.75 percentage points below the level implied by trend growth of 2.75 percent from the end of 2006. This was a downward revision in comparison to the 5.25 percentage point loss assumed in the preelection March budget. These very large numbers, if determining policy, would significantly reduce the scope for demand-side policies and add to the urgency of consolidation.

Transatlantic differences in the evaluation of the impact of the crisis on potential output and equilibrium unemployment are first order in magnitude

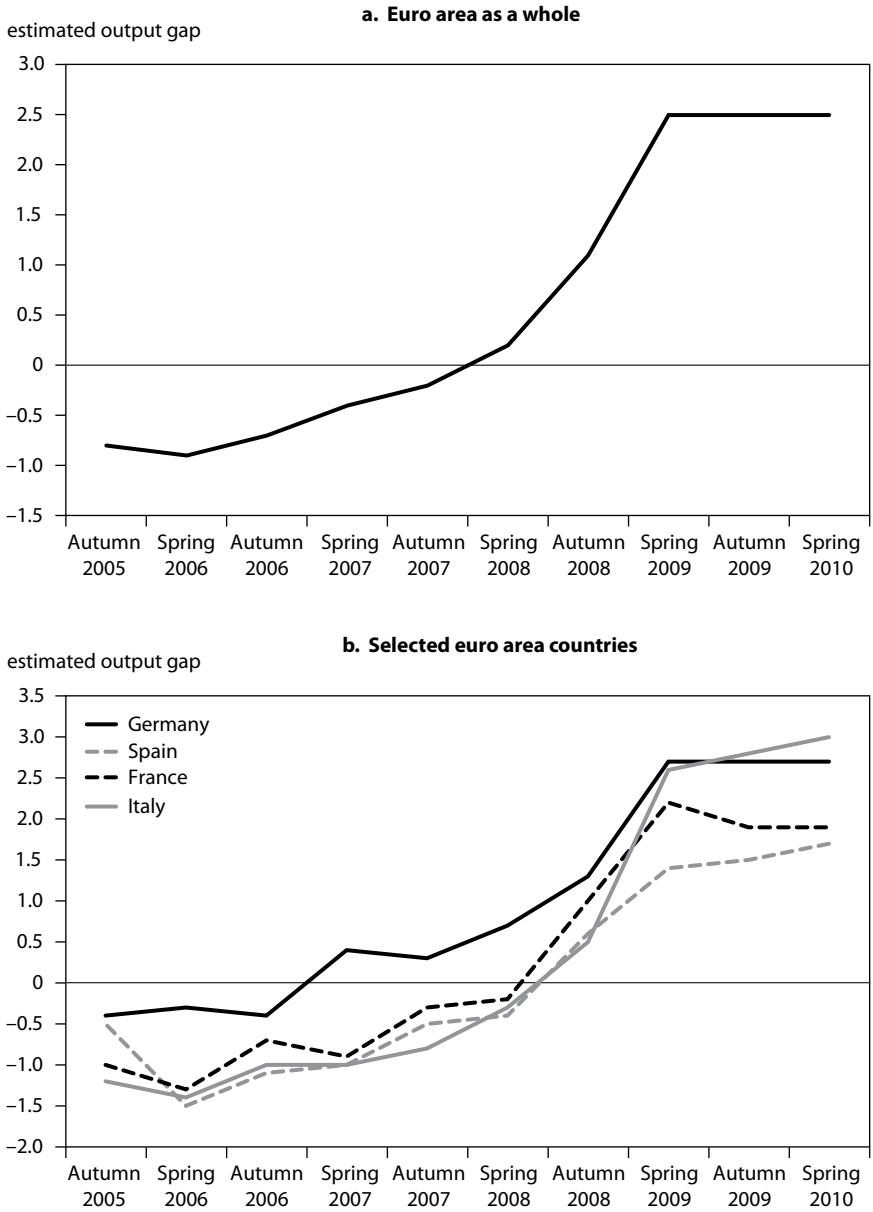
2. This view was indicated by Assistant Secretary Charles Collyns of the US Treasury Department in response to questions after a talk given at Bruegel (Transatlantic Cooperation to Strengthen the Economy, remarks presented at Bruegel, Brussels, September 15, 2010).

3. Donald Kohn, The Economic Outlook, speech given at the Federal Reserve Bank of San Francisco Community Leaders Luncheon, San Francisco, April 8, 2010.

4. Narayana Kocherlatoka, Inside the FOMC, speech given in Marquette, Michigan, August 17, 2010.

5. The office was created on May 17, 2010, to "provide independent forecasts of the public finances and the economy to inform fiscal policy decisions." According to the chancellor of the exchequer, George Osborne, its creation implies that "the power the Chancellor has enjoyed for centuries to determine the growth and fiscal forecasts now resides with an independent body immune to the temptations of the political cycle" (Budget Statement by the Chancellor of the Exchequer, the Right Honorable George Osborne MP, June 22, 2010, www.hm-treasury.gov.uk [accessed on January 15, 2011]).

Figure 2.2 Evolution of European Commission estimates of the 2007 euro area output gap



Note: Both figures give the evolution of estimates of the output gap for the same year (2007). Each point on the horizontal axis corresponds to the date when the estimate was published.

Source: European Commission, Economic and Financial Affairs, economic forecast for spring and autumn, 2007–10, available at http://ec.europa.eu.

Table 2.2 National estimate of potential output losses and structural unemployment increases

Country/economy	Source	Potential output loss (as percent of precrisis potential output)	Structural unemployment (percent)	
			Precrisis	Current
United States	Congressional Budget Office	–1.75[a]	4.80	5.00
United Kingdom	Office of Budget Responsibility	–8.75[b]	5.25	5.25
Euro area	European Commission	–3.70[c]	7.50	9.00

a. Estimate is for 2015–20.
b. Estimate is for 2015.
c. Estimate is for 2013.

Sources: Congressional Budget Office, *Economic and Budget Outlook*, August 2010; Office of Budget Responsibility, Budget Forecasts (Initial), March 2010, and Pre-Budget Report (Revised), June 2010; European Commission, Economic and Financial Affairs, estimates for June 2009 and economic forecasts for spring 2007 and spring 2010, available at http://ec.europa.eu.

(table 2.2). Taken at face value, they are bound to have profound implications for the setting of policy objectives and policy strategies.

Is this difference justified? According to the Organization for Economic Cooperation and Development (OECD 2010), the reduction in potential output arises from a combination of three main factors:

- *A lower capital stock.* Forgone investment and a higher cost of capital negatively affect capital deepening and hence output per employee. The higher cost of capital is expected to result from a return of risk aversion to more normal levels and from the introduction of higher bank capital ratios. The latter effect, however, is likely to be small in the medium run (BCBS 2010). In a financially globalized context, there are few reasons why the magnitude of this effect should differ across countries—although the size of an economy's small and medium enterprises sector, with its dependence on collateralized bank lending for finance, may be one source of difference. In any event, figure 2.1d actually indicates that in the time since the crisis to date, capital expenditures have followed a similar evolution in the United States, the United Kingdom, and the euro area; the impact on capital stock would accumulate over time.
- *Unemployment hysteresis affecting both equilibrium unemployment and force participation.* The magnitude of this effect depends on the size and composition of the unemployment shock. It is bound to be larger in countries that have suffered from larger and sectorally more concentrated employment losses and/or more regional divergences in employment markets. Going

the other way, it is expected to be lower in countries with more responsive labor and product markets, where job reallocation takes place faster.[6]

- *Reductions in total factor productivity resulting from sectoral reallocations from high- to low-productivity sectors, skill mismatches, and lower research and development expenditures.* The magnitude of this effect again depends on the size and the nature of the shock, as well as on the policies put in place to favor reallocation, skill acquisition, and retraining. The degree of financial dysfunction in a country would have a lasting effect via this mechanism.

Taking these three factors into account, the OECD (2010) assesses potential output losses to be about 3 percent in the United States, between 3 and 4 percent in the United Kingdom, France, the Netherlands, and Germany, and a little more than 4 percent in Italy—thus, importantly, comparable for most major Western economies. The estimated loss is 9 percent in Spain, where the bursting of the construction bubble is expected to result in a severe increase in structural unemployment and a significant lowering of the labor force participation rate. As to structural unemployment rates, estimates from the OECD 2010 spring forecast put their increase between 2007 and 2010 at 0.7 percentage points for the euro area and 0.3 percentage points for both the United Kingdom and the United States, hardly a policy-significant difference. We are skeptical of these latter estimates and expect them to rise over time, both in reality as hysteresis kicks in, and as data get updated—in fact, while the demand-driven rise in unemployment in the United States is the predominant share, the rise in unemployment is so high that it could well involve a one to two percentage point rise in structural unemployment, which longer-term persistence will worsen.

Differences in the nature and size of the shock, labor market institutions, and the functioning of labor and capital markets are therefore not sufficient to explain away the observed difference in policy assumptions. Greater supply-side optimism seems to be warranted in the United States, given both the recent productivity numbers (even heavily discounted) and a history of full recovery following shocks—but there is little evidence-based justification to rule out permanent effects altogether in the US economy. Conversely, European pessimism may well be exaggerated, especially given the lesser rises in unemployment and in private leverage, and the possibility that pessimism takes policy ineffectiveness for granted. In both cases, the policymakers' beliefs may in the end be self-fulfilling, as an active demand-side policy can help contain hysteresis and stimulate investment, whereas a policy that starts from the opposite assumption may be vindicated ex post (Posen 2010a).

6. Migration can also magnify employment shocks, as discouraged workers may migrate to other countries with better employment outlooks. This factor, however, is second order in a comparison between Europe and the United States.

In summary, differences in the magnitude and the character of the shocks and institutions may account for part of the contrast between US supply-side optimism and European supply-side pessimism. But beliefs about the supply-side effects of the crisis also matter, especially in how they will shape policy responses. Those differences in belief may help us understand why, in spite of having suffered an initially lower output shock than Europe, the United States has been consistently more in favor of stimulating aggregate demand through monetary and budgetary policies.

Political Economics

A last reason why policies may differ is that political economy constraints are not identical. Some of them are specific to policy fields, and they are addressed in the remainder of the chapter; but one is general: the political cost of mass unemployment. In this respect the US and European situations differ on two accounts:

- First, unemployment in the United States is back to levels not seen since the early 1980s, close to postwar highs. In Europe, however, the employment recession is by no means exceptional, and unemployment rates in the euro area or the United Kingdom are essentially back where they were in 1996–97, significantly below postwar highs.
- Second, US unemployment insurance does not cover long-term unemployment, whereas schemes to supplement the income of the long-term unemployed are widespread in Europe, making unemployment more tolerable.

In these conditions Joseph Stiglitz's remark that "our welfare state is our monetary policy" applies in the United States. It results in a call for action, including as regards fiscal policy, since monetary policy has hit the zero bound. In Europe, by contrast, the political urgency of action is not as great. Political economics may therefore also help to explain different policy attitudes.

Monetary Policy

We now turn to comparing the actual policy responses, starting with monetary policy, for which we first look at institutional constraints before comparing actual behavior.

Institutional Constraints

There were several reasons for the US Federal Reserve and the Bank of England (BoE) on one side, and the ECB on the other, to respond differently to the crisis. To start with, they had (and still have) different mandates, most clearly as regards output stabilization and financial stability (table 2.3). The ECB has a

Table 2.3 Main characteristics of central bank mandates

Central bank	Price stability	Exchange rate stability	Output stabilization	Financial stability
US Federal Reserve	Yes	No, but US Fed may intervene in foreign exchange markets, and New York Fed may also intervene on behalf of the US Treasury	Yes, on an equal footing with price stability	Yes, including supervision of major bank holding companies
European Central Bank	Yes	No, but may intervene on foreign exchange markets	Yes, secondary to price stability	Not explicitly
Bank of England	Yes, definition of price stability belongs to government	No, but may intervene in foreign exchange markets	Yes, secondary to price stability	Yes, but no direct supervisory responsibilities (until 2012)

Source: Adapted from Bénassy-Quéré et al. (2010).

more narrowly defined mandate than the other two central banks; it does not have explicit responsibility for financial stability nor a formal lender-of-last-resort role; and by its very nature, liquidity assistance is decentralized at the level of the national central banks.

The importance of stated mandates as determinants of central bank behavior, however, should not be overstated (Kuttner and Posen 2009). It is a general result of political economy that some institutions increase their mandates through activity in a crisis. It is well recognized that the Fed in fact did so during 2008–09, but so did the ECB. Its reach into financial matters has gradually strengthened throughout the crisis, as indicated by the following: the involvement of its president, Jean-Claude Trichet, in the rescue of the Fortis and Dexia banking groups in autumn 2008; the 2009 agreement to give it leadership in the European Systemic Risk Board in charge of macroprudential supervision; the role it played in the design of conditional assistance to Greece and provision of liquidity to distressed banks in spring 2010; and the launch of a government bonds purchase program in May 2010. Similarly, the BoE is regaining control over bank supervision and created new asset purchase facilities of various kinds over the course of the crisis.

Second, as reflected in the financial stability aspect of their mandates (and ex post in their relative willingness to exceed those limits), the three central banks have different relationships with their respective national governments and regulatory authorities. Times of acute financial stress require the sharing of information and the rapid making of unified decisions. In the United States and the United Kingdom, the central bank is part of the government, though independent from elected officials with regard to specific monetary policy decisions. There are institutionalized and informal channels of regular

communication between these two central banks and their nations' treasuries and bank supervisors.[7]

The ECB, however, is not part of any member state's government and there are distinctly limited communication channels between it and the EU executives or national authorities.[8] When the crisis broke out, the ECB had no privileged access to needed information from national bank supervisors, nor even established channels of communication with them (Pisani-Ferry and Sapir 2010). Although some of these limitations have been overcome, ongoing consultations between ECB officials and euro area governments regarding financial stability remain much less intensive and continuous than comparable consultations in the United States or the United Kingdom.

Third, and most importantly, the central banks' monetary policies followed different strategies and had different priorities going into and now coming out of the crisis. The US Fed has much more room for discretion than the other two central banks, as it had neither been given nor adopted an explicit nominal target, and instead has a commitment to a "dual mandate" of output and price stabilization. The ECB has an inflation goal set by treaty, and a "two-pillar" approach based on both price developments and forecasts as well as on monetary developments. The BoE operates under a precisely defined inflation targeting framework.

Thus, the BoE is most tied to its inflation forecast, while the ECB can always justify a deviation from its inflation goal with reference to its monetary pillar, and the Fed can change its intermediate target as suits a majority of the Federal Open Market Committee, so long as at least either growth or prices are moving in the desirable direction.

Still, all three central banks behaved similarly during the decade of the Great Moderation (as estimated for example by reaction functions; see Belke and Polleit 2007), given the demonstrated ability to maintain low inflation at no apparent cost to growth or volatility. All three were committed to opposing the risk of outright deflation in autumn 2008, consistent with the clear assessment of the imminent danger and their common commitment to price stability. Their strategic approaches, however, have led to different plans for coping with uncertainty about inflation after the crisis.

Fourth, the three central banks' operational frameworks for providing liquidity to their respective banking systems differed as well. The ECB operated

7. This point should not be taken to indicate an absence of coordination failures. As illustrated by the calls for consolidation of supervisors in the United States and by the recently announced replacement of the "tripartite" regulatory system in the United Kingdom, there were breakdowns. But these were seen as failures rather than as inherent, as they would be in the euro area, and they notably did not extend to fiscal-monetary relations.

8. The president of the ECB attends the monthly meetings of the euro area finance ministers and the vice president attends the monthly meetings of the state secretaries (Economic and Financial Committee). Also, the European Commissioner for Economic and Monetary Affairs may attend the monthly meetings of the ECB Governing Council. But there are no high-frequency, multilevel meetings as in the United States or in the United Kingdom.

primarily through large-scale repo transactions prior to the crisis, and it was thus able to accept from the banks a very great quantity of a very wide range of collateral assets, which made particularly easy the provision of liquidity. The range of assets that are eligible as collateral for central bank lending was markedly narrower in the United States and the United Kingdom (where monetary policy essentially consisted only of buying and selling treasury securities on the open market prior to the crisis). The Fed and BoE had to play catch-up with the ECB, adding a host of acronymed "facilities" to try to achieve the same effect once the zero lower bound on nominal interest rates was reached.

Similarities and Differences

Against this background, the monetary and financial stability policies pursued by the three central banks have been in some respects remarkably similar, indicating that shared assessments of the risks to the financial system and the economy were strong enough to overcome institutional constraints. Interest rate policies were broadly identical, at least from the Lehman shock in September 2008 until summer 2010, as all three central banks brought policy rates de facto to zero within weeks (figure 2.3).[9] And responses to outbreaks of acute interbank market illiquidity were also remarkably parallel. Within hours after indications of paralysis emerged on the interbank market, all three central banks provided wholesale liquidity to the banking system. They expanded and rolled over their liquidity programs as much and for as long as necessary to ward off liquidity shortages. When interbank markets locked up again for several euro area banks in spring 2010, the ECB again intervened without hesitation.

There have, however, also been significant differences in the response, which have grown more important over time. The three most important are different attitudes toward quantitative and credit easing, different policies as regards partner countries, and different perspectives on the economic outlook.

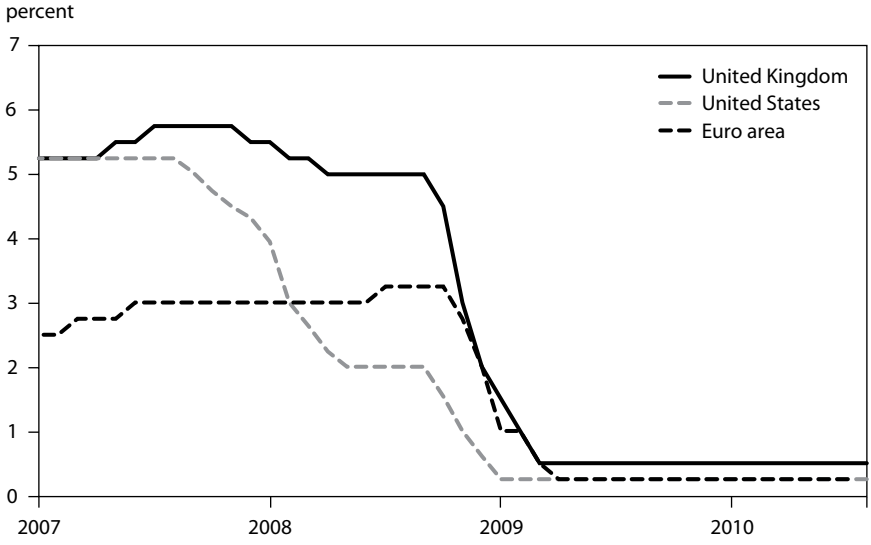
Quantitative and Credit Easing

Probably the most notable difference among the three central banks is that the BoE and the Fed have undertaken significant *quantitative easing*, but the ECB has not undertaken any. The BoE and the Fed indicated in early 2009 that they considered it necessary to supplement interest rate cuts with loosening through unconventional instruments[10]; they both believed that the interest rate cuts were an insufficient response to the scale of the shock. The Fed has

9. Although the ECB's policy rate was only reduced to 1 percent, the adoption of a scheme for unlimited provision of liquidity in September 2008 implied that the 1 percent level become a ceiling rather than a reference for market rates

10. Ben Bernanke, The Crisis and the Policy Responses, Stamp Lecture, London School of Economics, London, January 13, 2009; Mervyn King, speech given at the CBI East Midlands Annual Dinner, Nottingham, England, January 20, 2009.

Figure 2.3 Policy rates in the United States, euro area, and United Kingdom, 2007–10



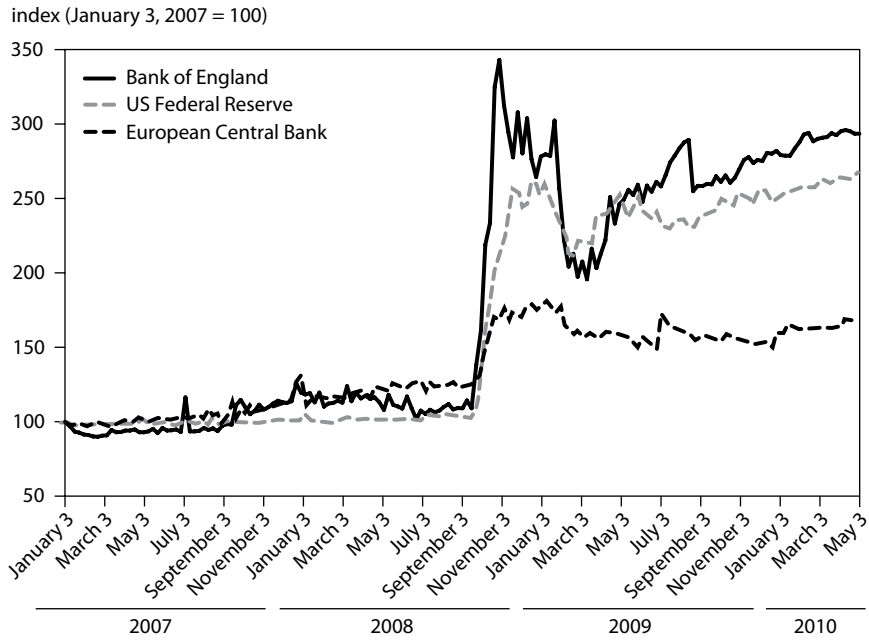
Sources: European Central Bank; Bank of England; US Federal Reserve.

since proceeded to purchase vast quantities of mortgage-backed securities and agency paper as well as Treasuries, while the BoE has purchased essentially only gilts (long-term government bonds), reflecting differences in the respective economies' depth of markets and beliefs about which type of purchase would be more politicizing. Their general approach and scale of quantitative easing have been similar, however, and so are the estimated effects on interest rate spreads (Gagnon et al. 2010, Joyce et al. 2010).

At the same time, the ECB has consistently rejected the idea that it either had to go beyond the provision of liquidity to banks, to overcome the zero bound through purchasing of government bonds, or to attempt to influence the shape of the yield curve. The asset purchase programs it announced (a covered bonds purchase program in 2009 and a sovereign bonds purchase program in 2010) were intended to be of limited magnitude and to be sterilized so as to have no impact on aggregate money supply. Consistent with this approach, the ECB's balance sheet expanded by far less than those of the two other central banks (figure 2.4).

Also *credit easing* (i.e., specific asset purchase programs that aim to restore liquidity in asset market segments) was undertaken by all three central banks, but to an uneven degree. The Fed undertook early on to loosen clogged market segments such as the commercial paper as well as student loan and other securitization markets. The BoE offered a commercial paper facility, but had few takers. Through the early stages of the crisis, the ECB was satisfied with

Figure 2.4 Central bank balance sheets, 2007–10



Sources: European Central Bank; Bank of England; US Federal Reserve; authors' calculations.

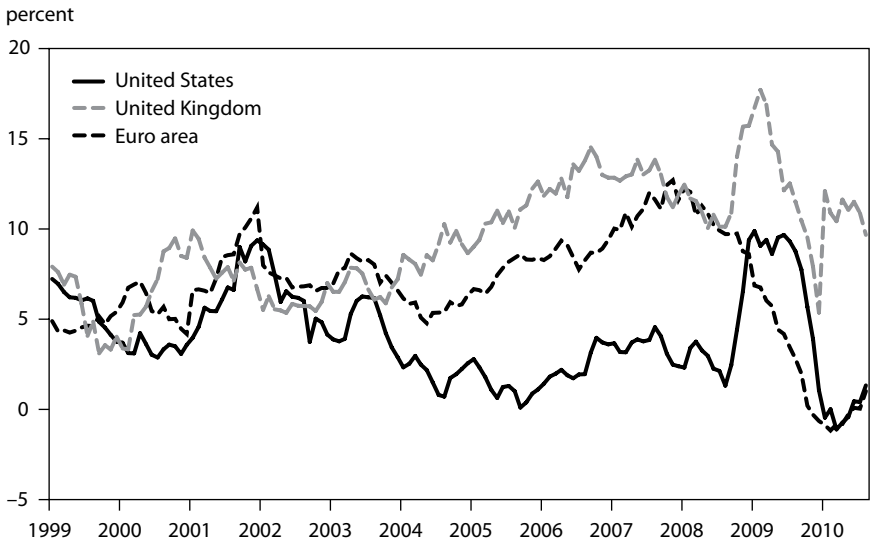
its measures providing liquidity to the banking system, perhaps because of the greater importance of bank lending versus securities markets in the euro area. As indicated already, the ECB did eventually undertake credit-easing actions, after the Greek crisis erupted in early 2010; however, it did so with evident reluctance, without having stated its aims, and only for a rather short period.

Such marked differences between the three central banks' responses to a common simultaneous shock—and to one for which at least initially all three had the same assessment and interest rate response—merit understanding. It could be argued that these differences result merely from structural rather than policy factors. Certainly, part of the explanation has to do with differences in the transmission of the shock through distinctive financial structures.

The US economy relies much more on securitized, market-based finance than the bank lending–centered economies of continental Europe, with that of the United Kingdom somewhere between the two.[11] As a result, it made sense that in 2008–09 the Fed gave priority to restoring liquidity in key securities markets, whereas the priority in the euro area was to ensure liquidity

11. Observers used to refer to more "arm's-length" financing in the United States and United Kingdom than in continental Europe, but developments in the 2000s leading up to the financial crisis indicate that the concept misleads more than it elucidates, both positively and normatively.

Figure 2.5 Growth in broad money aggregates, 1999 to August 2010



Sources: European Central Bank; Bank of England; US Federal Reserve.

access for the banks and make sure that they were able to perform their credit distribution role.

For that reason, it is easier to explain the different approaches to credit easing than to quantitative easing. It is perfectly reasonable for the central bank to try end-run banks in an economy where a large number of nonfinancial agents borrow directly on the market, while it is just as reasonable for the central bank to act through the banking system in an economy that relies mainly on banks to channel credit to nonfinancial agents. Given that structural difference, it is clear that the money multiplier contracted more in the United States and the United Kingdom than in continental Europe—and as argued by Jürgen von Hagen (2009), this could help to explain why the base money response had to be more aggressive in the former case than in the latter.

Yet it is ironic that the one major central bank with a publicly declared monetary pillar has countenanced a large and sustained decline in broad money (i.e., credit) growth, without any use of quantitative measures to offset this decline. As seen in figure 2.5, for all three central banks, broad money growth went way down after the crisis (less so on this measure for the United Kingdom than for the United States or euro area). In fact, the largest sustained decline in trend monetary growth versus the precrisis average has taken place in the euro area, perhaps as a result of the lack of quantitative easing undertaken by the ECB. Remember, this is broad money and so is a measure of credit outcomes, not of an instrument like base money, which the central bank controls.

Quantitative easing is a substitute for interest rate policy when traditional monetary stimulus has reached its limits and/or been frustrated by financial instability. The pros and cons of its adoption do not depend on the specifics of the monetary transmission mechanism. So the difference between, on the one hand, the Fed and the BoE and, on the other hand, the ECB, is a genuine one. The ECB's rejection of quantitative easing cannot be attributed to conditions only, nor can it be a question of greater faith in monetarism in the Anglo-Saxon than in the continental central banks. Rather, the lesser degree of activism on the part of the ECB was first and foremost a matter of political doctrine.

The ECB could relatively easily embark on wholesale liquidity provision to the banking sector, but not on wholesale purchase of government bonds, because the former was not perceived as contradicting the spirit of the EU treaty, whereas the latter was seen as running against a fundamental treaty provision, the strict separation between monetary and budgetary policy.[12]

The Maastricht Treaty is very clear in the priority ascribed to protecting monetary policy from the consequences of budgetary policy. Although an outright purchase of government bonds on the secondary market does not violate the letter of the treaty, it is admittedly not in accordance with its spirit, and this acted as a constraint. In the United States, however, management of the yield curve by the Federal Reserve is merely a return to the early 1950s, when the Fed had an explicit mandate to ensure the stability of the long-term rates at low levels (Woodford 2001). Fiscal-monetary coordination is not alien to the US policy tradition, nor does it evoke dreadful times. Indeed the lack of clarity of the EU treaty about the financial stability responsibilities of the ECB can be ascribed to disagreements over the vertical distribution of tasks within the Eurosystem, not to disagreements over the doctrine of central banking. This lack of clarity was overcome at the height of the crisis. On quantitative easing, however, it seemed there was little room for reinterpretation, at least as a political reality.[13]

The same can be said of targeted asset purchase programs like the one undertaken by the ECB in May 2010. Although this program was explicitly framed as qualitative rather than quantitative (and all operations carried out within it were entirely sterilized), its adoption was controversial even within the ECB because it was regarded by some influential parties as implying the transformation of the ECB into a quasi-fiscal agent. Governor Axel Weber of the Bundesbank publicly opposed the measure. The ECB was quick to propose the creation of a European crisis management institution that would take over from the central bank the role of assisting sovereign issuers (ECB 2010). There

12. This argument was echoed in various ways in the United Kingdom (where the government gave an indemnity for the BoE's potential future losses on gilt purchase) and the United States (where some of the advocates of credit easing said extensive Fed purchases of government bonds would constitute an erosion of fiscal discipline), but too faintly to constrain policy.

13. Posen (2010b) makes a case that such bond purchases do not compromise central bank independence.

was no expansion of mandate or tools undertaken or even attempted by the ECB in the situation.

International Swap Agreements

Turning to international aspects, another significant difference is that only the Fed embarked on significant cross-border provision of liquidity through swap lines. In 2008–09 the ECB remained much more guarded in its approach to cooperation with central banks outside the euro area, including critically not providing euro cash to EU members that would be future euro area members and that had large outstanding euro-denominated (private sector) debt (Darvas 2009). Some other EU central banks, like the Swedish Riksbank, provided euro lines to banks exposed in Eastern Europe, and financed them through swaps with the ECB, but this did not fully substitute for direct ECB liquidity provision.[14]

Frankfurt's reluctance to embark on liquidity assistance outside the euro area in spite of evident needs and repeated requests from Central and Eastern European member states can be ascribed in part to institutional limitations. Unlike the provision of liquidity to banks, the provision of cross-border euro liquidity would have involved taking risks outside the remit ascribed to the ECB by the EU treaty, which does not envisage any financial responsibility for the ECB in the wider EU region. In the event of a loss, the ECB would have had difficulties giving a legal basis for its action. Only encouragement by the EU budgetary authority—i.e., the European Council—would have allowed the ECB to exceed its mandate, but this encouragement would probably have been considered in contradiction with the independence of the ECB. In the end the ECB entered into a semiclandestine swap agreement with the Bank of Sweden, which in turn provided euro liquidity to some of the new member states. The reluctance of the political authorities to have the ECB provide such swap lines in turn reflected a long-standing reluctance to have the euro play a stronger global or regional role.[15]

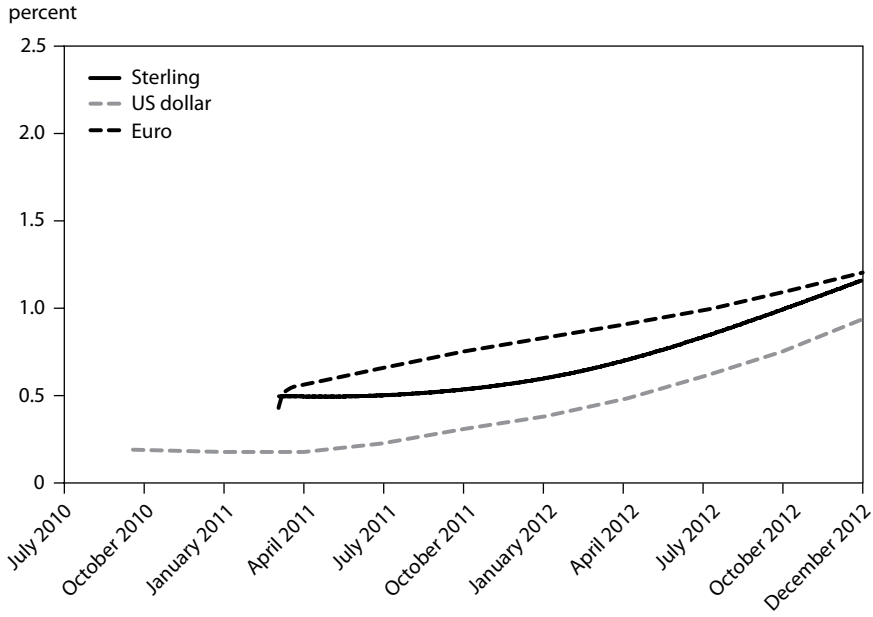
Policy Outlook

The last but certainly not the least of the differences among central banks has been their perspective on the economic outlook. Whereas their policy stance had been remarkably similar in 2008–09, by spring 2010 the ECB on the one hand and the Anglo-Saxon central banks on the other hand were beginning to have markedly different perspectives on their respective economic forecasts and to assess risk very differently. In the euro area, the focus gradually moved toward emphasis on the need to exit the period of exceptional support,

14. For the BoE, such swap lines are not relevant given the pound's limited global usage.

15. We do not pursue the discussion further here, as it is incidental to the theme of this chapter. For further discussion, see Pisani-Ferry and Posen (2009).

Figure 2.6 Market expectations of money market interest rates as of September 27, 2010



Note: Figure shows predictions for dates on horizontal axis made on September 27, 2010.

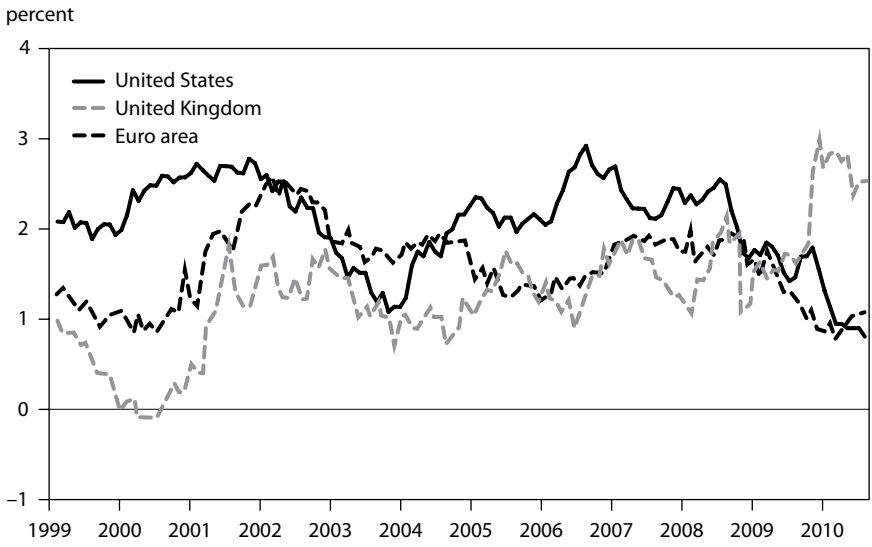
Sources: Bank of England; Bloomberg.

whereas the Fed and the BoE were more willing to continue extending monetary support (or at least to hold off on exiting). This divergence had already emerged by early 2010, but it was overshadowed by mounting concerns over sovereign finances in the euro area and the ECB's need to respond to the resulting stress in financial markets. As market participants became concerned about the fallout of sovereign downgrades and the possible consequences of potential defaults for national banking systems, the ECB had to resume direct liquidity provision instead of winding it down as expected. But by autumn 2010 the ECB's focus was again on exit, and markets expected a rise in interest rates to take place in early 2011. By contrast the policy outlook in the United States and the United Kingdom remained markedly more tilted toward continued monetary support of recovery (figure 2.6).

Summing Up

In the end, central bank policy reactions to the crisis demonstrated remarkable initial convergence in view of dissimilar traditions and institutional constraints on either side of the Atlantic, as well as significant divergences in policy strategy, the instruments used, and ultimately the outlook once

Figure 2.7 Core inflation rates, 1999–September 2010



Sources: European Central Bank; Bank of England; US Federal Reserve.

the worst had passed. Even the sovereign debt crisis of spring 2010 did not prompt greater activism from the ECB beyond immediate and targeted liquidity provision. On the basis of the track record thus far and the policy announcements made, we posit that divergences are likely to grow larger in the aftermath of the recovery.

Our reading is that two factors dominate. First, as documented in the previous section, central banks exhibit different stances as regards the desirability of stimulating demand. Analyses of supply-side developments and the assessment of the extent of slack that remains in the economy weigh significantly, as the magnitude of the output gap is a key determinant of the strength of deflationary pressures. Yet this difference has more to do with the underlying assessment of potential output, how lasting the shock's impact on potential would be, and the rightness of monetary ease in dealing with adjustment—that is, the degree to which a demand-dominated versus a supply-dominated view of monetary policy's role prevails—than with the outlook per se. Figure 2.7 shows comparable core inflation rates for the United States, United Kingdom, and euro area. While the United Kingdom has seen a spike in inflation passed through from sterling weakness and a value-added-tax increase, in both the euro area and the United States core inflation is coming down to historical lows. In all three economies, the best single predictor of future inflation is lagged core inflation, so inflation would be well below target in both the United States and euro area (and coming back toward target in the United Kingdom).

The second main difference between, on the one hand, the Fed and the BoE and, on the other hand, the ECB, has to do with their relationship with government. Where this relationship was unproblematic—in the United States and the United Kingdom—the central bank was much freer to go beyond its usual mission than where it was problematic—in the euro area. This relationship with government is likely to continue influencing the willingness to embrace nonconventional policies in continental Europe, even if the ECB is expanding its mandate on the financial stability side.

Fiscal Policy

Institutional Settings and Constraints

Institutional constraints matter considerably in the field of budgetary policy. Three are especially relevant to the transatlantic comparison.

To start with, US budgetary policy is carried out by the federal government, while in the European Union it is only the states whose budgets have a macroeconomic role. The traditional Musgravian allocation of responsibilities, which assigns stabilization to the central level, therefore does not apply to Europe, where the EU budget plays no macroeconomic role whatsoever.

A second relevant institutional constraint involves the role of automatic stabilizers. As indicated in table 2.4, the share of (general) government outlays in GDP is significantly larger in Europe than in the United States, which mechanically increases the impact of automatic stabilizers. Furthermore, more than 40 percent of current public expenditures in the United States are carried out by state and local governments, most of which are subject to some sort of balanced-budget rules and therefore cannot let automatic stabilizers play in full. The upshot is that subfederal budgets tend to behave procyclically and that as a consequence automatic stabilizers are markedly weaker in the United States than in the European Union on net, even more than the relative size of the public sector would indicate.

Finally, euro area national governments are subject to common rules within the framework of the Stability and Growth Pact (SGP).[16] Whereas the SGP does not preclude discretionary countercyclical policies, in practice it creates obstacles to them in countries whose initial budgetary situation is not strong, and it can therefore induce procyclical behavior. These constraints, which tend to make European discretionary budgetary policy less countercyclical than in the United States, matter considerably because of the diversity of situations within the European Union. In fact, although the precrisis *aggregate* budgetary situation was roughly similar on the two sides of the Atlantic

16. The prevention of excessive deficits that is enshrined in the treaty nominally applies to all member countries irrespective of their monetary status, but sanctions can be applied only to euro area members. In practice common budgetary rules have a stronger bearing on the euro area member countries' budgetary behavior.

Table 2.4 Precrisis budgetary indicators, 2007 (percent of GDP)

Indicator	United States	Euro area	United Kingdom
Gross public debt	61.9	71.0	47.4
Net public debt	42.2	42.6	28.8
Budgetary balance	−2.8	−0.6	−2.7
Total outlays	36.8	46.0	44.2

Source: Organization for Economic Cooperation and Development, *Economic Outlook* database, www.oecd.org.

(table 2.4), the disaggregated picture was strikingly different, with public debt ratios in 2007 ranging from 25 to 40 percent of GDP in Ireland and Finland (and even less in some non–euro area countries) to more than 100 percent in Greece and Italy.

Taken together, institutional constraints imply stronger automatic stabilizers in Europe and a stronger discretionary role for the US federal budget because the latter has responsibility for overall stabilization and must offset the procyclical behavior of state governments, while EU member governments start from uneven positions and may be forced to consolidate either by the newly aggressive demands for enforcement of the SGP or by market pressures.

Fiscal Stance

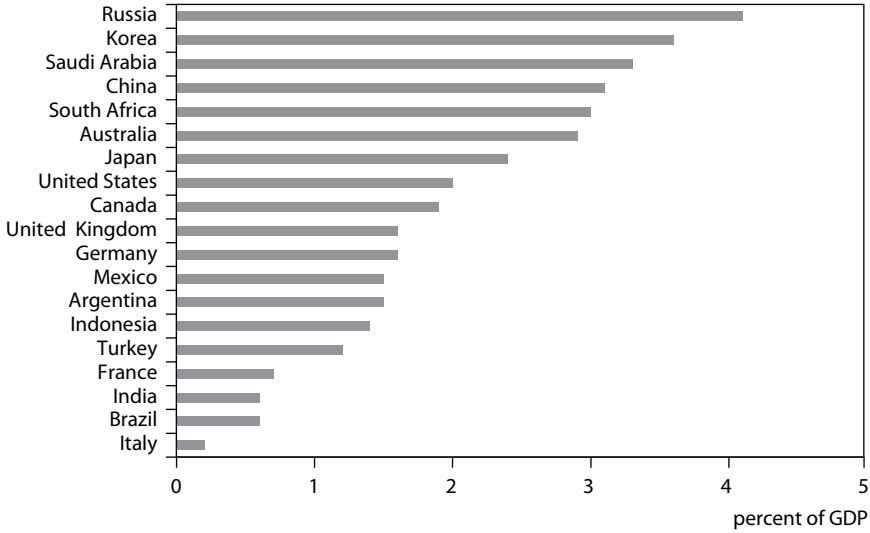
As indicated by the discrepancy between traditional ex post measurements based on the change of structural budget balance indicators and ex ante measurements based on the evaluation of actual discretionary decisions, evaluating the fiscal stance in normal times is less easy than it looks. But it is even more challenging in times of financial and economic stress. Indeed, the usual structural balance indicators produced by international organizations such as the IMF, the OECD, and the European Commission are affected by assumptions made about the supply-side impact of the crisis and the timing of its effects. Changes in the structural balance are therefore not reliable indicators of the actual fiscal stance any longer.

For 2009, the IMF (2009) produced estimates of the discretionary stimulus delivered by the G-20 countries, which are broadly consistent with estimates produced independently.[17] They indicate that consistent with what could be expected from institutional constraints and past record, the United States delivered more discretionary stimulus than the United Kingdom and euro area countries, but that the broad gist of policies was similar (figure 2.8). This was in stark contrast with certain past episodes when attempts to coordinate policy responses resulted in failures.

In most countries, 2010 has been a broadly neutral year as far as the fiscal stance is concerned, but debates have been taking place as regards the appro-

17. See, for example, von Weizsäcker and Saha (2009).

Figure 2.8 Discretionary stimulus in G-20 countries, 2009



G-20 = Group of Twenty

Sources: Horton, Kumar, and Mauro (2009); Bruegel calculations.

priate stance for the years ahead. The transatlantic difference in attitude became more and more apparent during spring and even resulted in an open rift in the run-up to the June 2010 G-20 summit, where plans for 2011 and beyond were compared. Discussions had already been held by European ministers in autumn 2009 on a coordinated "exit strategy" with the aim of reversing the stance of budgetary policy in 2011 at the latest. The actual pace of exit was accelerated by bond market tensions affecting Southern Europe and Ireland in spring 2010, which led to a series of policy U-turns in Greece, Spain, and Portugal and to policy adjustments in Italy. Consolidation plans in Southern Europe have already affected the 2010 stance. In other euro area countries (especially Germany and France), moderate consolidation measures are on the agenda for 2011. Overall, a fiscal contraction amounting to one percentage point of GDP is expected in the euro area in both 2011 and 2012. In the United Kingdom, Prime Minister David Cameron's government announced in June a major consolidation program over four years, the consequence of which is a reduction of the cyclically adjusted net borrowing by more than two percentage points per year in the next two years.

In the United States, however, the debate is still about the continuation of stimulus, and the Obama administration agreed only reluctantly to the G-20 June commitment to halve budget deficits between 2010 and 2013 and to stabilize public debts by 2016. Plans released by the Office of Management and Budget in summer 2010 envisaged phasing out of the fiscal stimulus over

two years and stabilizing the federal deficit at about 4 percent of GDP in the years to come, without attempting to reduce the debt ratio. There are talks of medium-term consolidation but no concrete program at this stage.

Several explanations can be given for this difference in attitudes:

1. Economic situations—and the perception of them—were different, as previously discussed, though as indicated the difference in supply impact across the Atlantic is exaggerated.
2. There are differences in the fiscal space governments enjoy. Clearly, many smaller European countries felt the heat sooner and more distinctly than the United States because of the fragmentation of national budgets and the privileged status of US government securities. More generally, concerns over public finance sustainability are pervasive in Europe, whereas they appear to be much less salient in the United States.
3. Policy doctrines may differ. Confidence in the Keynesian effects of countercyclical fiscal policy is far from universal in the United States but it is more widely accepted than in Europe, where many policymakers are closer to the Ricardian or to classical views of the limited effectiveness of fiscal policy. This is related in part to supply-side pessimism but also to a fragmentation argument: For small, open economies, the countercyclical effects of a stimulus are necessarily smaller, and the balance between Keynesian and Ricardian effects different, than for a large continental economy like the United States, whose financial assets are in global demand. Europe does not see fiscal policy in the aggregate but through the eyes of the national policymakers (thereby often from a small-country perspective).
4. Political economy matters. Disagreements over the distribution of the budgetary adjustment burden are probably more significant in the United States than they are in the typical European countries, and the preference for tax cuts is markedly more pronounced. In Europe, sustainability concerns are not overshadowed by disputes over taxation and spending as they are in the United States.

Fiscal Space and Sustainability

As we indicate above, a potential motive for differing views on the urgency of fiscal retrenchment is that countries do not have the same fiscal space. Where sustainability is more remote a concern, adjustment can be more easily postponed, even if another economy might not be able to similarly increase its debt burden. Cross-country assessments of debt sustainability are generally based on rather crude instruments such as medium-term projections of public debt ratios. These projections are based on necessarily unreliable policy assumptions, and sometimes arbitrary criteria. Furthermore, they give no indication as to what is the sustainable debt level.

A more satisfactory approach has recently been proposed by Jonathan Ostry et al. (2010) on the basis of earlier work by Henning Bohn (1998) and

Olivier Blanchard (1984). The idea is that each country faces a debt limit that depends on the (nonlinear) reaction of the primary balance to the debt-to-GDP ratio and on the (nonlinear) response of market interest rates to the debt level. If this debt limit is exceeded, the debt becomes unsustainable because, barring an exceptional adjustment effort, normal budgetary responses are not sufficient to prevent the debt from expanding beyond market willingness to fund it. Debt limits differ somewhat from one country to another depending in part on past responses of the primary surplus to debt developments, which often reflect political institutions. The available fiscal space can then be defined as the distance of the current or projected debt level to the debt limit.

Figure 2.9 plots the fiscal space calculated by Ostry et al. (2010) for the United States, the United Kingdom, and selected euro area countries. (We do not aggregate the euro area here because countries are separately liable for their debt. Averaging over euro area countries would amount to minimizing potential problems.)

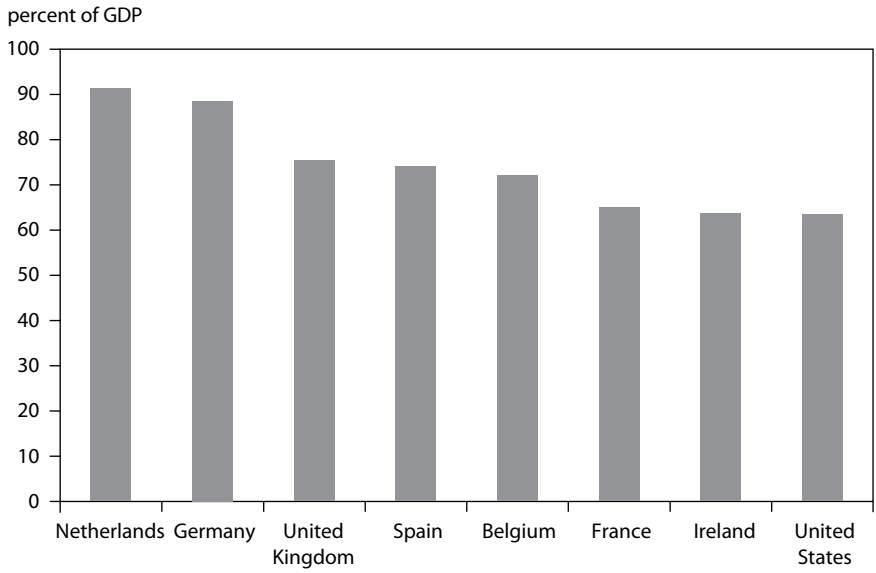
According to this indicator, the United States is not better placed than countries like Ireland and Spain that are under the threat of losing access to capital markets.[18] If anything, it should move toward consolidation faster and more aggressively than a country like Spain, which enjoys significantly more fiscal space—whatever the immediate market concerns or lack thereof. Of course, this indicator does not quantify the value of the dollar's special status, and the additional fiscal space it gives to the United States, but that is subject to change, and could even allow the overextension by the US government that in turn erodes that status.

This indicator, however, depends on past behavior only and does not take into account longer-term, mainly demographic, factors that weigh on a country's fiscal perspectives and may reduce its fiscal space further. It therefore needs to be complemented by a forward-looking approach like the one adopted by the European Commission (2009) in its annual sustainability report. The approach there relies on tax gaps à la Blanchard (1990) computed on the basis of the long-term projections carried out by the European Union's Working Group on Ageing Populations and Sustainability. It results in two tax gap indicators called S1 and S2, which give the permanent adjustment to the primary balance necessary to reach a 60 percent debt-to-GDP ratio by 2060 (S1) or to meet the intertemporal budget constraint over an infinite time horizon (S2).

Equivalent indicators can be computed for the United States on the basis of the Congressional Budget Office's long-term budget projections. This requires making a number of adjustments to ensure that assessments made for the EU countries and the United States are based on sufficiently comparable assumptions. As observed by Carlo Cottarelli and Andrea Schaechter (2010), available projections in fact do not meet this require-

18. Calculations do not include the effect of the bank recapitalization announced in Ireland in end-September 2010.

Figure 2.9 Fiscal space in the United States, United Kingdom, and selected euro area countries



Sources: Ostry et al. (2010); authors' calculations.

Table 2.5 Impact of age-related expenditures on the tax gap

Country/economy	**Age-related component of S2 indicator** (percent)
United States	2.1
Euro area	3.5
United Kingdom	3.6

Sources: European Commission (2009); Bruegel calculations.

ment. Specifically and importantly, the Congressional Budget Office projections extrapolate trend changes in the relative price of health care services (called excess cost growth), whereas baseline EU projections are based on constant relative prices. Stripping out this relative price change and adapting to the EU framework results in considerable improvement to the relative US fiscal outlook. As indicated in table 2.5, expected aging and its consequences for public finances result in only a 2.1 percent of GDP tax gap for the United States, against 3.5 percent for the euro area, 3.6 percent for the United Kingdom, and 5.7 percent for Spain.

The upshot is that even assuming a similar relative health care price evolution in the United States and the European Union, the more favorable US

demographic outlook results in a lower age component of the tax gap. The 1.5 percent of GDP difference, however, is not large enough to qualitatively change the conclusions of the previous analysis, indicating that in view of its current deficit and debt level, the United States has less fiscal room than apparently presumed when assessed on a comparable long-term basis.

Events, Politics, Doctrines, or Institutions? Summary of Findings

Before turning to international implications and discussing the coordination issue, we here summarize our main findings. We started by asking why post-crisis policy responses have started to diverge while the crisis response was remarkably symmetric. We have identified four nonexclusive explanations.

First, economic developments in the United States are in some respects more worrying than those in Europe, and warrant more aggressive policy action. While GDP has rebounded faster, the sustainability of that recovery is now in question, and employment has declined significantly more, both in absolute terms and in comparison to previous experiences. Furthermore, the extent of deleveraging that remains to be completed in the nonfinancial sector is without doubt more important in the United States, which implies that the drag on domestic demand will remain in place longer. True, euro area aggregates are of limited relevance, as Southern Europe needs to deleverage and as it is not clear that Northern Europe, especially Germany, will compensate through expanding domestic demand. Our assessment is nevertheless that the same policymakers approaching the situation with the same preferences would conclude that the US economy is in need of more support.

Second, political economy factors add to this objective assessment. For reasons that have to do both with its history and with its limited institutions for social protection, the US polity clearly has a lower tolerance for unemployment than European polities, including the United Kingdom. So the pressure to stimulate is bound to be more significant.

Third, an important source of divergence could be laid to fundamentally different beliefs about the nature of the recovery from the common shock. The US government believes that the American growth trend and potential output have not been lastingly damaged by the shock, consistent with their postwar recessionary experience; the EU governments (including the United Kingdom) believe that their economies' growth trends and aggregate supply have been severely damaged by the shock, consistent with their own past recessionary experiences.

As a result, the US government and Federal Reserve officials are far more inclined to maintain aggressively expansionary macroeconomic policies than their counterparts in Brussels, the ECB, and most European capitals. The difference in initial rebounds from the common crisis, with a sharper recovery and higher productivity growth in the United States than in Western Europe, seems to confirm the validity of these opposing views. We believe that the

actual degree of lasting damage to the US economy is higher, and to the euro area and UK economies lower, than officials on each side of the Atlantic currently maintain. We therefore argue below that policymakers should be forced to reconsider before their divergent policies become self-fulfilling.[19]

Fourth, institutional factors play a major role as well. The absence of a central fiscal authority, the dispersion of national situations, and the lack of global currency status make the euro area economies much more vulnerable to market attack for their fiscal situation than the US economy. This has contributed to a race to consolidation that would not have happened had the euro area relied for stabilization on a federal budget in the same way the United States does. Similarly (though to a lesser extent), the more limited institutional remit of the ECB relative to that of the Federal Reserve contributed to the sense of reaching an end on unconventional monetary policies. The uneasy relationship between the fiscal and monetary authorities, where testing the limits has reaffirmed mutual suspicions, has also contributed to limiting the euro area central banks' margin of maneuver.

It should finally be added that the financial system rescue and restructuring policies also began to diverge as distance from the initial shock was felt. The false perception among policymakers in the euro area seemed to be that since the Anglo-Saxon type of finance was the source of crisis (a valid claim to a substantial degree), European banks were not going to suffer as much or require as much restructuring as banks in the United Kingdom or United States (a false hope). Again, institutional structures within the euro area that limited coordination of banking standards or fiscal expenditures, as well as a greater number of semipublic or fully public banks before the crisis, reinforced this tendency to be less aggressive than the United States or United Kingdom in cleaning up banks on the continent. The Spanish government's June 2010 initiative to start publishing real stress test results has led to a welcome increase in transparency. That was insufficient, however, to bridge the gap at the G-20 level between US-UK and euro area desires for implementation of capital and liquidity standards (with delays admittedly abetted by other G-20 economies). While not strictly a macroeconomic policy issue, this difference reinforces the divergence politically and economically.

19. We do not take the recent US economic performance at face value. We are, however, at least doubtful of the idea of an immediate sharp fall in productive capacity of the major EU economies. If the global financial crisis were to have persistent effects on growth, these should cumulate over time if the recession persists, by depreciating human capital and cutting off investment opportunities. They should not be seen as an immediate excuse for inaction, nor as having had a significant negative effect within the four to six quarters of outright recession in most major EU economies. Claims that structural unemployment rates doubled or potential growth rates halved overnight are hard to substantiate.

How Transatlantic Divergence Matters

If the major EU economies are in a genuinely different situation than the US economy (in terms of demand growth, unemployment, adverse supply shocks, and fiscal space), it is not only likely that macroeconomic policies in Europe and the United States will differ but also desirable that they should. The same to a large extent applies to the consequences of institutional constraints such as central bank mandates or budgetary frameworks, though these cannot be considered entirely given. National interests would be expected to predominate among policymakers, and arguably should. In broad terms, this is why international policy coordination has been rare. This is also why the bulk of analyses of policy coordination in normal times conclude that beyond trying to achieve agreement on the nature of the economic challenges, policy may in the end be best served by each government doing what it thinks is best for its own economy. So why worry about divergence between the European Union and United States following the initial joint crisis response?

There are four reasons why macroeconomic policy divergence may still matter in the current phase more than usually. First, and most importantly, spillover effects between countries' policies, particularly through capital flows, are still not what they are in normal times. Second, there is the possibility of international commercial strife coming out of divergence during a period of austerity—that is, a spiral of protectionism or competitive depreciation. Third, transatlantic divergence could exacerbate imbalances globally, not just bilaterally across the Atlantic. Fourth, there remains the risk of a self-fulfilling low-growth or even deflationary scenario that may arise through premature withdrawal of policy stimulus, which coordination could diminish.

International Spillovers in Postcrisis Times

One surprising aspect of the crisis was the extreme degree to which all asset prices and all indices of real activity moved together. Unlike the 1930s, when the transmission of the depression across countries was low, 2008–09 saw all firms react almost synchronously and identically. Trade and investment collapsed simultaneously around the Western world, and there was little to choose between equities or bonds across countries. The lack of benefits from diversification across the Atlantic (as opposed to the decoupling of large emerging markets) revealed the far deeper integration of Western financial systems and multinational production than seen in the trade data. This had the benefit that when the recovery came in any major economy, it was in large part shared. As policy rates remained at, or close to, the zero bound, and bond rates at historically low levels, positive spillovers through product markets were not hampered by negative spillovers through capital markets. This meant that the impact of any given country's policy measures was felt less at home and more abroad than in the past. That reality constituted a critical argument for a common stance on fiscal and monetary expansion when the crisis hit:

Policies moving together would have offsetting leakage abroad, and on net be far more effective.

The situation nowadays is less symmetric, but demand in all advanced countries still significantly falls short of potential output, inflation is in most cases below target, policy rates are still close to zero, and risk-adjusted bond rates are even lower than two years ago. These conditions imply that product market spillovers continue dominating capital market spillovers. So what might happen in such a world when macroeconomic policies diverge? Large economies that tighten fiscal policy would have less macroeconomic multiplier from their action, as part of it spills over to trade partners; and those doing fiscal stimulus would get less bang for their policy buck. Those tightening governments, however, would previously have expected to gain on net exports by relatively constraining demand in comparison to their trading partners, and that effect would be diminished, too; the tightening country's drag on demand in the other countries would increase, while the relative contraction on demand at home would decrease. The net effect would depend on any given economy's particular attributes and trade patterns. The degree to which governments pulling in opposite directions offset each other's desired policy paths, however, definitely increases. For governments that see a need for significant additional stimulus, this could lead to a greater uphill effort to get the same effect.

Furthermore, capital flows might well amplify rather than offset asymmetric policy moves. In normal times the flow of capital is from tightening countries to stimulating countries as long-term interest rates respond to fiscal policy. But against a background of widespread rising sustainability concerns, governments that loosen fiscal policy risk aggravating sustainability concerns, leading to speculations over a possible sharp depreciation of the currency as a consequence. While depreciation would usually aid in expansion, potential inflation pressures from depreciation and the likely monetary policy reaction could well swamp those benefits in the medium term if not immediately. Meanwhile, those economies that stick to fiscal tightening could find themselves facing additional capital inflows. Under the present circumstances, when investment demand is low and financial intermediation is impeded, the likely further decline in bond rates, let alone investment expansion, is limited; so the drag from currency appreciation is likely to dominate for the relatively austere. Thus, there is a likely asymmetry whereby diverging fiscal policies will frustrate both sides of the situation: The austere governments will be put upon by competitive depreciation, while the stimulating governments will see less benefit from their efforts.

Monetary divergence will have somewhat similar effects, though they will be more in line with the standard experience than for fiscal policy. In the situation where some central banks would undertake additional ease—almost certainly in the form of large-scale asset purchases—while others would be exiting monetary accommodation through interest rate increases, capital would again be expected to flow from the stimulating to the tightening currency areas.

This would abet the desired impact of policy on each side, so long as monetary ease did not lead to rising long-term interest rates. Such increases would be highly unlikely so long as the easing central banks were easing policy in the face of a low-inflation or deflationary forecast. The issues arising from the divergence would be the extent to which such movements led to overshooting when monetary control is limited at best, and again the likelihood that the trade effects on currency would dominate the interest rate effects on investment under present circumstances.

Risks of Protectionism

This scenario leads to the second concern about transatlantic divergence in macroeconomic policy: political reaction to perceived or actual competitive depreciation, and the potential for protectionism as a result. It must be noted that far fewer than expected protectionist policies were undertaken as a result of the crisis, particularly between the European Union and United States. The G-20 agreements to prevent such actions and the role of the World Trade Organization in ensuring discipline merit praise for this success. At the time we write this chapter, however, protectionist risks seem to be rising. So far, they have been more acute across the Pacific than the Atlantic (not that such a geography makes them more welcome), but the bilateral surpluses of Germany with other euro area countries and with the United States are also gaining political salience.

If macroeconomic policy divergence meant that the major European economies would engage in budget cuts while the United States embarked on another round of fiscal stimulus, or that the ECB withdrew accommodation while the Fed and BoE extended quantitative or credit easing, we could expect capital flows into the euro area, particularly into those large members whose budget situations were seen as most sustainable. Already some signs that this is happening are noticeable. Such capital flows could be seen as constructive, reducing imbalances and abetting the respective desired policy stances. Whether the actual impact and political response would be taken that way is another matter.

Impact on the Global Adjustment

As noted, the question of current account imbalances is global, not solely or even primarily transatlantic. The third consideration for the international effects of transatlantic macroeconomic policy differences, then, is the impact this might have on global adjustment. This is primarily a question of currency and trade relationships with China and the economies closely tied to it. For some years, the lack of decisive Chinese action to end the undervaluation of the renminbi has benefited from divisions between the United States and European Union. Whether offering contracts for Airbus and Boeing, power plants, or construction materials, or granting preferred access to domestic

Chinese markets, the Chinese government has played commercial interests in the West against each other. This strategy has made it more difficult to get a common front on the currency issue, on which Europe was slow to come to a common stance and to voice concerns to China. EU-US differences have also persisted on such matters as protection of intellectual property rights for technology, even though the transatlantic economies have largely common interests in these areas.

On the pure economics, the impact on trade balances of transatlantic macroeconomic policy divergence is unclear, depending as it does upon how the relative slowdown of the tightening countries affects trade flows versus the net export impact of the likely associated relative appreciation. Divergence in macroeconomic policies, however, is likely to worsen this political division for China to exploit, as the pressure will increase for elected governments to pursue bilateral trade deals (or to wink at Chinese encroachment on property rights) and to seek direct adjustment of the bilateral exchange rate.

Self-Fulfilling Prophecies

The final international concern arising from divergent macroeconomic policies is of a different nature. As we discussed in earlier sections, there is genuine reason to pursue different monetary and fiscal approaches in the major economies of the euro area and the United States, given the differences in economic pressures (arising from differences in household balance sheets and unemployment) and in policy approaches (arising from fiscal room and central bank mandates). These differences should not be exaggerated—the impact of the crisis on fiscal room and on potential supply lies somewhere between the stated positions on opposite sides of the Atlantic, and the deflationary pressures on both sides are not dissimilar. Yet there remains the real possibility that past recovery patterns from noncrisis recessions or less severe shocks are a poor predictor for what is to come now. In fact, there is arguably a risk that premature tightening or even insufficient macroeconomic stimulus could lock in subpotential growth for an extended period. This move could be self-fulfilling in perpetuating deflationary pressures and eroding potential growth (see Posen 2010a and references therein).

If such a risk is real, a transatlantic divergence that increases competitive pressures for near-term fiscal austerity, or ratifies underestimates of potential rates of growth and current output gaps, could be corrosive to long-term performance—and thus to both price stability and fiscal sustainability. Obvious transatlantic divisions in, if not public disputes over, the economic outlook and the rightness of other countries' policies could erode confidence and limit the effectiveness of the policies taken, particularly in their impact on investment. In essence, the policymakers in the European Union and United States have to make a judgment as to the relevance of the Great Depression, of Japan's lost decade, and of the previous experience of post–financial crisis periods to today (see Abiad et al. 2009, Meier 2010, Posen 2010b, and Reinhart and

Reinhart 2010, among others). The current policy discussion, particularly in the euro area, seems to underestimate the relevance of this parallel, and thus incurs risks from pursuing policy settings as though facing a normal recovery. The lesser degree of leverage and unemployment in the major euro area economies compared to the United States is undeniable (though the differences in financial sector fragility are not so great), but it is not clear that this situation constitutes a free pass from historical precedent, especially if other economies within the euro area and across the Atlantic are at risk.

A Quantum of Ongoing Coordination

Given our assessment of the reasons for transatlantic divergence in macroeconomic policies since the initial crisis response, we would suggest a few measures to maintain what could be termed a critical quantum of policy coordination. The point of a convoy is to get all the ships in the flotilla to their destinations safely, and our economies are not yet fully out of the dangerous open waters. Moreover, the respective destinations of the euro area, UK, and US economies are not as far apart as they are sometimes claimed to be at present, so the convoy keeping us together for a little while longer is at little cost.

- The euro area, United Kingdom, and United States should agree not to intervene unilaterally against one another's currencies, making explicit what is already understood, and avoid other policies geared toward large-scale depreciation of their own currencies. This agreement could be extended to the other major economies. The monitoring of the consistency of actual policies with this commitment should be delegated to the IMF, while the G-20 should serve as the venue for coordination.
- Comparative assessment of the fiscal room—including of potential growth—should be assigned to an independent multilateral assessor, like the IMF. Some framework akin to that we offered above should be the basis for the assessments.
- All countries should adopt and submit to their parliament medium-term fiscal consolidation objectives and guidelines that ensure the sustainability of public finances under prudent economic assumptions. In practice, this would imply adjustment mostly on the US side.
- The European Union and United States should agree that the Chinese undervaluation problem has to be dealt with in a multilateral framework but commit to undertaking joint action under the terms of such a framework, and thereby limit the ability of the Chinese government to play countries against one another for commercial gain.

We have little illusion, however, that these measures will be adopted in the near term. We rather fear that the longer policies diverge across the Atlantic, the more justified each policy stance will seem to its originators.

References

Abiad, A., R. Balakrishnan, P. Koeva Brooks, D. Leigh, and I. Tytell. 2009. *What's the Damage? Medium-Term Output Dynamics After Banking Crises*. IMF Working Paper WP/09/245 (November). Washington: International Monetary Fund.

BCBS (Basel Committee on Banking Supervision). 2010. *An Assessment of the Long-Term Economic Impact of Stronger Capital and Liquidity Requirements* (August). Basel.

Belke, Ansgar, and Thorsten Polleit. 2007. How the ECB and the US Fed Set Interest Rates. *Applied Economics* 39, no. 17 (September): 2197–209.

Bénassy-Quéré, Agnès, Benoît Coeuré, Pierre Jacquet, and Jean Pisani-Ferry. 2010. *Economic Policy: Theory and Practice*. Oxford University Press.

Blanchard, Olivier. 1984. Current and Anticipated Deficits, Interest Rates and Economic Activity. *European Economic Review* 25: 7–27.

Blanchard, Olivier. 1990. *Suggestions for a New Set of Fiscal Indicators*. OECD Economics Department Working Paper 79. Paris: Organization for Economic Cooperation and Development.

Bohn, Henning. 1998. The Behavior of U.S. Public Debt and Deficits. *Quarterly Journal of Economics* (August): 949–63.

CBO (Congressional Budget Office). 2010. *Economic and Budget Outlook* (August). Washington.

Cerra, Valerie, and Sweta Saxena. 2008. Growth Dynamics: The Myth of Economic Recovery. *American Economic Review* 98, no. 1: 439–57.

Cohen, Elie, and Jean Pisani-Ferry. 2007. Economic Institutions and Policies in the US and the EU: Convergence or Divergence? In *The European Economy in an American Mirror*, ed. B. Eichengreen, M. Landesmann, and D. Stiefel. London: Routledge.

Cottarelli, Carlo, and Andrea Schaechter. 2010. *Long-Term Trends in Public Finances in the G-7 Economies*. IMF Staff Position Note 10/13 (September). Washington: International Monetary Fund.

Darvas, Zsolt. 2009. *The EU's Role in Supporting Crisis-Hit Countries in Central and Eastern Europe*. Bruegel Policy Contribution 2009/17 (December). Brussels: Bruegel.

ECB (European Central Bank). 2010. Reinforcing Economic Governance in the Euro Area. Frankfurt. Photocopy (June 10).

European Commission. 2009. *Sustainability Report*. Brussels.

European Commission. 2010. *European Economic Forecast—Autumn 2010*. Brussels.

Gagnon, J., M. Raskin, J. Remache, and B. Sack. 2010. *Large-Scale Asset Purchases by the Federal Reserve: Did They Work?* Federal Reserve Bank of New York Staff Report 441. New York: Federal Reserve Bank of New York.

Horton, Mark, Manmohan Kumar, and Paolo Mauro. 2009. *The State of Public Finances: A Cross-Country Fiscal Monitor*. IMF Staff Position Note SPN/09/21 (July). Washington: International Monetary Fund.

IMF (International Monetary Fund). 2009. *The State of Public Finances Cross-Country Fiscal Monitor: November 2009*. IMF Staff Position Note SPN/09/25. Washington: International Monetary Fund.

IMF (International Monetary Fund). 2010. Unemployment Dynamics During Recessions and Recoveries: Okun's Law and Beyond. In *World Economic Outlook* (April). Washington.

Joyce, M., A. Lasaosa, I. Stevens, and M. Tong. 2010. *The Financial Market Impact of Quantitative Easing*. Bank of England Working Paper 393 (May). London: Bank of England.

Kuttner, Kenneth, and Adam Posen. 2009. Central Bank Independence: Conservative, Yes, but Causal? Paper presented at the ASSA Annual Meeting, San Francisco, January.

Meier, Andre. 2010. *Still Minding the Gap—Inflation Dynamics during Episodes of Persistent Large Output Gaps*. IMF Working Paper WP/10/189 (August). Washington: International Monetary Fund.

OECD (Organization for Economic Cooperation and Development). 2010. *The Impact of the Economic Crisis on Potential Output.* WP1 working document (February). Paris.

Ostry, Jonathan, Atish Gosh, Jun Kim, and Mahvash Qureshi. 2010. *Fiscal Space*. IMF Staff Position Note SPN/10/11 (September). Washington: International Monetary Fund.

Pisani-Ferry, Jean, and Adam Posen, eds. 2009. *The Euro at Ten: The Next Global Currency?* Washington and Brussels: Peterson Institute for International Economics and Bruegel.

Pisani-Ferry, Jean, and André Sapir. 2009. Euro Area: Ready for the Storm? In *The Euro at Ten: The Next Global Currency?* ed. Jean Pisani-Ferry and Adam S. Posen. Washington: Peterson Institute for International Economics and Bruegel.

Posen, Adam. 2010a. The Case for Doing More. Speech given to the Hull and Humber Chamber of Commerce, Industry, and Shipping, Hull, September 28.

Posen, Adam. 2010b. When Central Banks Buy Bonds: Independence and the Power to Say No. Speech given to Barclays Capital 14th Annual Global Inflation-Linked Conference, New York, June 14.

Reinhart, Carmen, and Vincent Reinhart. 2010. After the Fall. Paper presented at the conference "Macroeconomic Challenges: The Decade Ahead," Federal Reserve Bank of Kansas City, Jackson Hole, WY, August 26–28.

von Hagen, Jürgen. 2009. *Monetary Policy on the Way Out of the Crisis*. Bruegel Policy Contribution 2009/15 (December). Brussels: Bruegel.

von Weizsäcker, Jakob, and David Saha. 2009. *Estimating the Size of the European Stimulus Packages*. Bruegel Policy Contribution 2009/02 (April). Brussels: Bruegel.

Wilson, Daniel. 2010. *Is the Recent Productivity Boom Over?* FRBSF Economic Letter No. 2010/28 (September). San Francisco: Federal Reserve Bank of San Francisco.

Woodford, Michael. 2001. Fiscal Requirements for Price Stability. *Journal of Money, Credit and Banking* 33, no. 3 (August): 669–728.