

INTERNATIONAL MONETARY FUND

Cross-Cutting Themes in Major Article IV Consultations

Prepared by the Strategy, Policy, and Review Department
(with input from Asia and Pacific, European, and Western Hemisphere Departments)

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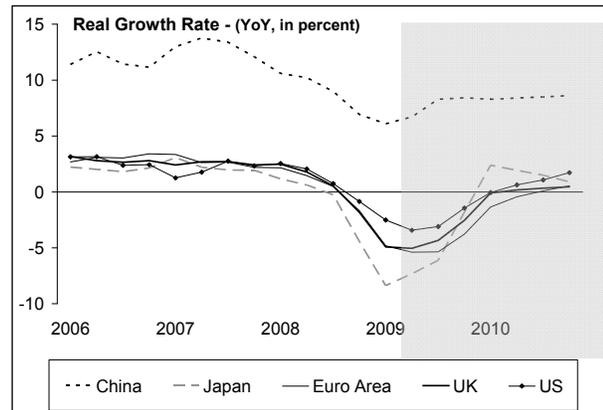
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- This paper is part of a broader on-going effort to bring a more cross-country perspective to bilateral surveillance, taking advantage of a cluster of Article IV consultations with five systemically important economies concluded in July. With the five economies—the United States, the Euro area, China, Japan, and the United Kingdom—accounting for two-thirds of global output and three quarters of capital flows, the nature of linkages and consistency of policy responses across the systemic five (S5) has important implications for the world economy.
- Drawing on the staff reports of the five Article IVs, as well as some new analysis, three sets of questions are explored here:
 - *Crisis propagation—how was the U.S. shock transmitted across the S5?* The nature of financial linkages explains the direct shock to banks, and the counter-intuitive movements in exchange rates; trade links are the more immediate channel for China and Japan.
 - *Crisis response—how have policy responses differed and why?* Although commonalities are often emphasized, there are major differences in the mix and aggressiveness of interventions, reflecting local factors and constraints.
 - *Crisis exit—what are the tensions across the S5 and what do they imply?* Medium term macroeconomic projections across the S5 raise the specter of demand deficiencies and weak global recovery, suggesting that current policies and the assumed constellation of exchange rates may not be sufficient for the needed rebalancing of demand. While the reversal of financial sector interventions is a common challenge in money centers, monetary exits in some cases are almost as complicated as fiscal ones.
- This report, still experimental in content and format, was drafted by a team comprising Tamim Bayoumi, Martin Mühleisen, Javier Hamann, Charis Christofides, Niko Hobdari, Laura Lipscomb, Edouard Vidon, and Malika Pant (all SPR), with input from the S5 country teams and Gian Maria Milesi-Ferretti (RES).

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I. CRISIS PROPAGATION

1. **The divergent ways in which the U.S. financial shock metastasized to other systemic economies helps explain differing emphasis in the policy responses.** Given that the S5 consultations were conducted during the deepest and most highly synchronized global recession in modern times, the staff reports on which this paper builds revolved around responses to the crisis—in particular, after its



intensification and internationalization following the collapse of Lehman Brothers in September 2008 (Annex I provides a time line of the crisis). While the systemic economies faced relatively similar slowdowns in output, the sources of the shock differed in ways that help explain the relative importance attached in individual reports to bank support, macro economic stimulus, and structural reforms.

2. **That U.S. housing problems led to systemic banking concerns in Europe but not in Asia reflects differences in the degree of S5 financial integration (Figure 1).** Three systemic economies—the Euro area, the United States, and the United Kingdom—account for over two-thirds of gross capital flows, with the U.K. contribution reflecting its large (500 percent of GDP) and highly internationalized banking sector. As a result of this close integration, systemic bank problems from the meltdown in “toxic” U.S. assets spread immediately to Europe, exacerbated in some countries (most notably the United Kingdom, Ireland, and Spain) by local housing busts. By contrast, the limited international financial integration of China and Japan, including small exposure to toxic assets, contained the direct impact on banks.

3. **The shock to major Asian economies mainly reflected trade links with the United States and Europe and, in Japan, falling values of bank equity (Figure 2).** The slump in confidence in response to the intensification of U.S. and European banking woes after the Lehman collapse translated into a sudden stop in spending on highly-traded consumer durables and investment goods. The resulting collapse in global trade was hardest on the more export-oriented S5 countries (China, Japan, and parts of the Euro area). In Japan, banks were also temporarily stressed through losses coming from the fall in the value of their holdings of clients’ equities.

4. **Rapid changes in exchange rates magnified the shock to activity in Japan while providing some buffer for the United Kingdom.** Counter intuitively, a crisis that started in the United States led to *appreciation* in the dollar, as well as a rapid rise in the yen, offset by depreciations in the pound and, to a lesser extent, the Euro. As discussed

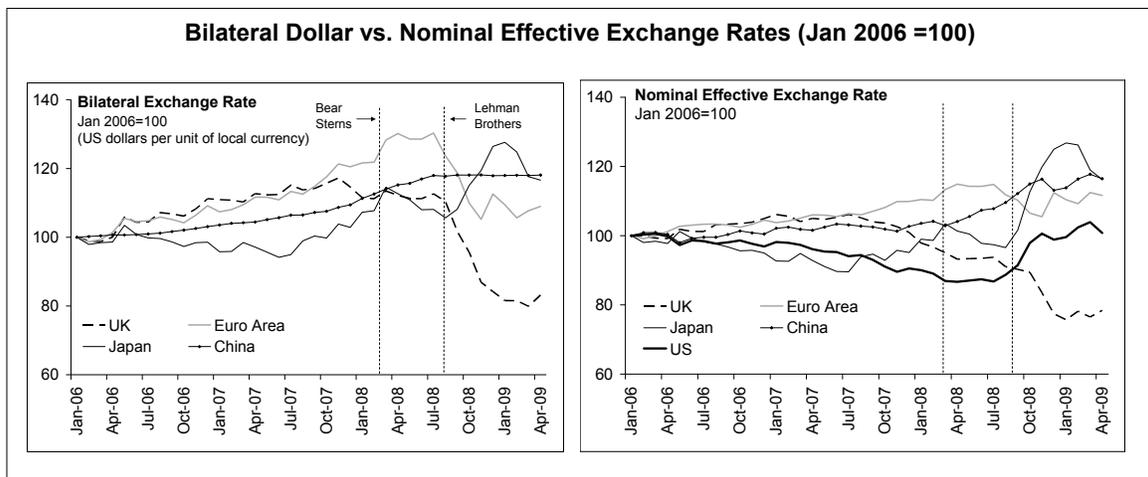
below, these different responses reflected the interaction of a bank-led sudden stop in global capital flows, small changes in net borrowing or lending needs, and divergent levels of international capital market integration (Figures 3 and 4):

- Bank delevering** explains why the United Kingdom, with its highly internationalized banking system, had by far the largest swing in financial flows, with inflows and outflows falling by almost half of the U.K.'s annual GDP in the last quarter of 2008 alone. **Sterling** thus depreciated sharply, reflecting the need to attract balancing portfolio flows in the face of a sharp withdrawal of net bank claims as foreign banks reduced their overseas operations.

Cross Border Capital Flows				
Advanced Economies, 2007–08 1/				
	2007	2008	2007	2008
	US\$ billions		In percent of world GDP	
Net Purchase of Foreign Assets by Residents				
FDI abroad	1,234	1,052	3.8	3.0
Portfolio assets	1,183	-225	3.6	-0.6
Other investment assets	3,564	-795	11.0	-2.3
Of which: banks	2,651	-253	8.2	-0.7
Other	45	40	0.1	0.1
Net Purchase of Domestic Assets by Nonresidents				
FDI liabilities	848	525	2.6	1.5
Portfolio liabilities	2,649	1,551	8.1	4.4
Other investment liabilities	3,409	-1,360	10.5	-3.9
Of which: banks	2,690	-633	8.3	-1.8
Other	-154	19	-0.5	0.1

1/ Euro Area, Japan, United Kingdom, and United States.
Source: IFS and Fund staff calculations.

- Unwinding carry trades** led to a repatriation of capital to Japan, as greater exchange rate volatility and risk aversion discouraged use of cheap Japanese funding of overseas investment. The **yen** thus appreciated strongly, the impact amplified by the relatively low turnover in the Japanese foreign exchange market.
- Safe-haven portfolio flows** into the United States were boosted after the Lehman collapse as purchases of government paper more than offset outflows of private and agency debt tainted by the subprime meltdown. The net result was an effective **dollar** appreciation that more than offset earlier weakness when problems were still seen as a largely U.S. affair. The **Euro** followed the opposite trajectory, Euro area portfolio flows being a major counterpart to U.S. ones.



- **Administrative capital account measures** limited the impact of the crisis on China's external accounts and, in a volatile external environment, the authorities stabilized the *renminbi* against the U.S. dollar in mid-2008, leading to a modest nominal effective appreciation.

The net impact was to move sterling and the yen closer to estimated equilibrium as unsustainable sources of inflows (bank borrowing) or outflows (carry trades) dwindled.

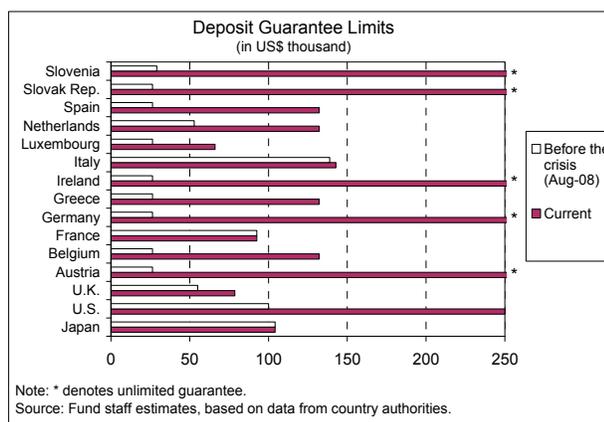
5. **These experiences are reflected in the content of the policy discussion and staff reports.** While all reports discussed the macroeconomic response in detail, in the United States and United Kingdom the combination of weakening household balance sheets and systemic banking strains resulted in a focus on bank support and financial reform. In the Euro area, less concern about household balance sheets translated into more discussion of structural weaknesses that might delay recovery. By contrast, in China and Japan, whose banking systems remained relatively unscathed, discussions centered on policies to reorient demand to domestic sources and, in Japan, the structural agenda.

II. CRISIS RESPONSE

6. **Policy responses and staff advice across the S5 also reflected differences in spillovers, assessments of underlying risks, and effectiveness of instruments.** Rapid spillovers across highly integrated financial markets explain the contrast at the start of the crisis between the uncoordinated rush to provide bank protection and the slower but more synchronized provision of macroeconomic support. The latter was implemented most slowly in the Euro area, where the multicountry policy framework meant that policies were designed to facilitate exit from the outset. At a later stage in the crisis, a focus on constraints on bank lending helps explain the more proactive stance taken by staff with respect to bank support. Finally, differences in financial structures and in the degree to which monetary transmission was impaired help explain differing choices of monetary policy interventions.

A. What Caused the Rush to Protect Banking Systems?

7. **The rush to bolster deposit guarantees and protect other bank liabilities largely reflected spillover risks from a run on wholesale bank funding** (Table 1). Concerns about a withdrawal of wholesale funding spiked soon after the Lehman bankruptcy in mid-September 2008. The United States moved almost immediately to raise deposit guarantee limits (U.S. money market mutual funds were also



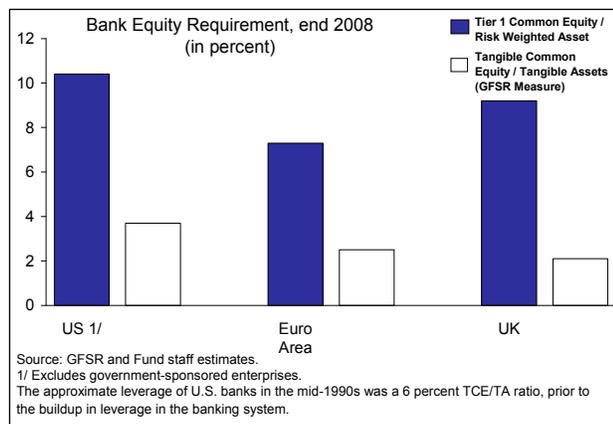
protected). In Europe, the Irish government provided blanket liability guarantees to its highly exposed banks in late September 2008. Driven largely by the need to avoid highly disruptive spillovers from cross-border deposit flows between highly integrated banking systems, most other Euro area countries and the U.K. quickly followed, in some cases through verbal commitments rather than legislation. Despite subsequent attempts to unify approaches, the Euro area report noted continuing tensions from diverse approaches to bank support.

8. **Similarly hurried policy decisions, interacting with local conditions, explains differing approaches to capital injections into weak financial institutions.** The United Kingdom and a few other countries nationalized some weak banks, but in several Euro area countries laws requiring agreement of financial institutions and their shareholders limited the room to maneuver. In the United States, while a major insurer and the quasi-public housing government-sponsored enterprises (GSEs) were taken over by the government, the strong belief in private ownership and a desire to secure returns on public money led the authorities to avoid using common equity when injecting bank capital. While there is likely no “best way” to support weak institutions, the diversity of treatment across economies made the already difficult task of assessing the capital needs of banks and banking systems on a consistent basis even more complex.

B. Why was Advice on Bank Support More Aggressive than on Macro Stimulus?

9. **Staff advice on capital injections reflected concern that U.S. and European banks could be substantially undercapitalized.** These concerns were based on calculations in the Global Financial Stability Report (GFSR) of the capital needed for U.S. and European banks to restore the ratio of tangible common equity to assets to its historical average. This reflected market concerns that regulatory norms

were inadequate and achieving them would still leave banks unwilling to lend. Officials regarded these calculations as overly conservative on a range of grounds, and preferred to use a narrower concept of risk weighted assets and a wider definition of capital (including hybrid instruments), benchmarked to regulatory ratios rather than historical norms. This resulted in lower official estimates of capital needs in the United States, United Kingdom, and Euro area. Japanese officials also viewed the wider regulatory definition of capital as appropriate, given the Japanese banking system’s more stable sources of funding, long investment horizon of holders of hybrid capital, and lower exposure to toxic assets.

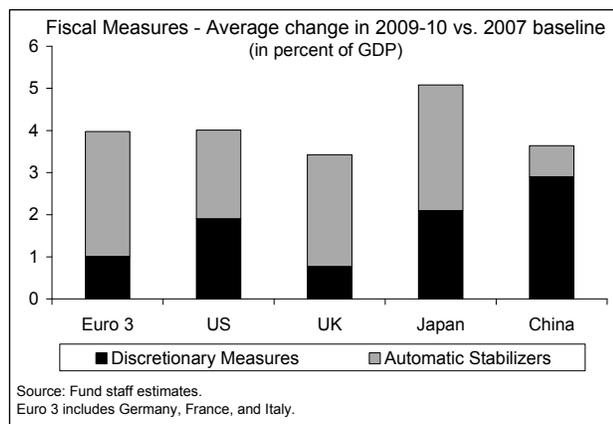


10. **Similarly, S5 staff reports were concerned about the slow progress in removing toxic assets from U.S. and European bank balance sheets.** The sluggish pace reflects a combination of concerns about valuation, stigma, and the complexities of resolving structured products. In the United States, guarantees on certain impaired assets did not assuage market concerns about weak banks, while the take-up of leveraged financing for sales of toxic assets to private investors has been limited by uncertainty over valuations and banks' unwillingness to realize implicit losses. The U.K.'s asset insurance scheme has only been considered by the two large partly-nationalized banks, while the Euro area and Japan reports also expressed concerns about take-up of voluntary schemes including, in Japan, equity purchases at market prices. The EU adopted harmonized guidelines on bank resolution but left details on whether to establish a bad bank, guarantee assets, or hybrid schemes to individual authorities. Some countries have begun to set up "bad banks," including Ireland and Germany on a national and bank-specific level, respectively.

11. **Slower and more modest spillovers allowed greater uniformity in the size of macroeconomic support and congruence in views on its appropriateness.** With spillover concerns of policy makers focused on the exchange rate consequences of monetary easing, whose immediate impact on activity is limited, individual central banks had significant policy leeway. Notwithstanding their different mandates, monetary authorities had time to coordinate policies, such as a multi-country interest rate cut in October. Faced by a simultaneous slowdown, all S5 central banks eventually cut policy rates significantly although Euro area easing was slower than staff advice, on lingering inflation concerns (Figure 5).

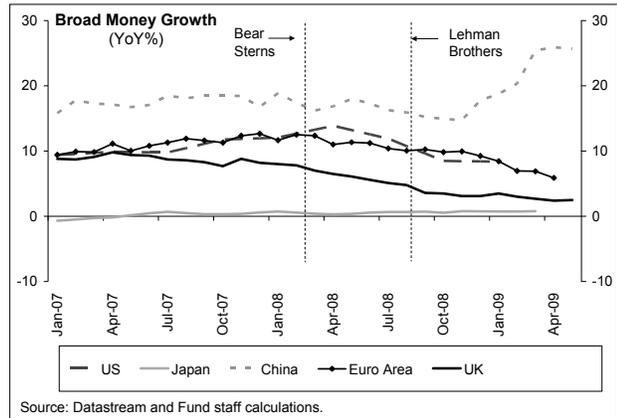
12. **Relative uniformity was also achieved in the size of fiscal stimulus once automatic stabilizers are included and bank support excluded.**

Leadership by the Fund and G-20 appear to have helped generate a critical mass of commitments, avoid free-riding, and secure domestic support for expansionary measures. Coordination was particularly important in the Euro area where, like monetary policy, commitments to discretionary fiscal stimulus were relatively slow. This reflected the area's large automatic stabilizers, constraints inherent in the EU's Stability and Growth Pact, and an emphasis on the need to identify exit strategies in a multi-country monetary union.



C. What Drove Differing Approaches to Unconventional Monetary Policies?

13. **With policy rates at low levels, all S5 central banks have used unconventional policies chosen to fit local conditions to support financial intermediation.** In China, the ending of earlier quantitative constraints on banks facing limited competition led to create a surge in broad money, but this success was not repeated elsewhere. Specific policy approaches to balance sheet expansion reflected varying



institutional set-ups. At one extreme, the Euro area with its highly bank-based financial sector offered its support almost exclusively through relatively conventional repurchase (repo) agreements that provided banks with cash in return for less liquid collateral, albeit in massive quantities, at extended maturities, and using expanded classes of collateral. By contrast, in the United States, where nonbanks play a much larger role and collateral policy is more restrictive, such operations were less effective, with the few counterparties hoarding much of the liquidity. As a result, a wide variety of targeted loan programs were launched to directly address gaps in credit markets (e.g., in asset-backed securities and commercial paper markets). The United Kingdom and Japan, faced with intermediate financial systems, used more mixed approaches.

14. **The U.S. Fed and Bank of England (BoE) have moved beyond liquidity support to aggressively buying securities outright (“quantitative easing”).** In an attempt to bypass severe problems in monetary transmission, the Fed and BoE have supported liquidity through direct purchases of assets. The BoE has taken a more conservative approach, mainly buying government securities and obtaining a government guarantee to cover any resulting balance sheet losses. Faced with a moribund housing market that was weighing on households and on financial sector balance sheets, the Fed has focused on buying mortgage-backed securities. But with the Fed’s balance sheet exposed to market risk, the staff have argued that facilities associated with failed financial institutions should be transferred to Treasury. Asset purchases were more limited in the case of the Bank of Japan, reflecting the lower degree of financial market disfunctionality there, and the European Central Bank, given its concerns about exit strategies.

15. **Public funds have also been deployed to reduce strains in nonfinancial balance sheets in the United States and Japan.** In the United States, which is facing a much larger wave of residential foreclosures than other S5 economies given its more liberal personal bankruptcy laws, the focus has been on assisting the housing market and household balance sheets. The government-controlled GSEs have been used to revive

mortgage lending and a series of (relatively ineffective) programs aimed at easing loan restructuring have been introduced. Japan expanded existing government funded loan guarantees to small- and medium-sized enterprises (SMEs), whose already weak balance sheets were hit hard by the recession; the U.K. also introduced credit guarantees for SMEs. As with other forms of support, it will be an important priority to fix the underlying problem—the collapse in demand for securitized U.S. mortgages, the need for restructuring Japanese SME balance sheets—once the crisis subsides.

III. CRISIS EXIT

16. **The S5 Article IV reports suggested that achieving a robust recovery will require bolder policies than have been announced so far.** A major concern in the U.S., Euro area, and U.K. reports is that lending constraints at undercapitalized banks could delay the recovery and lower the efficacy of macroeconomic stimulus. A slower recovery could also increase pressure to extend such stimulus, possibly undermining policy credibility and potential output. By contrast, the China report emphasized the importance of early exit from highly successful monetary easing due to the risks that rapid credit growth could produce further overcapacity in export-oriented sectors and worsen credit quality. Japan faces the difficult task of restructuring SME balance sheets and lowering its high government debt ratio. The wider issue is policy consistency across these economies, with staff advice focused on the structural reforms needed to create a robust and sustainable recovery by avoiding pitfalls from inadequate global demand or a return to unsustainable external imbalances.

A. Exiting Macro Stimulus

17. **The U.S., Euro area, and U.K. reports highlighted the risks to recovery if undercapitalized banks forego government aid to avoid associated stigma.** The interest of private banks in public capital is starting to wane as the constraints associated with government money become clearer—a point reflected in the low take-up of Euro area capitalization schemes and in the desire of some U.S. banks to repay capital injections. More generally, the diversity of approaches to financial support, uncertainty about adequate capital ratios, and the large spillovers if market confidence were again undermined, all suggest care and coordination in exiting from guarantee programs. Past experience also suggests exit will be slow (Table 2). Given the size and large number of U.S. bank and liquidity support programs, the U.S. report particularly emphasized the importance of clearly communicating plans for exiting exceptional support.

18. **The exit from unconventional monetary policies, particularly in the United States, may be lengthy and limit freedom to act swiftly on policy rates.** Officials observed that exit policies did not pose technical challenges, but staff thought that the unwinding of direct asset purchases could be complicated by large public financing needs, problems in securitization markets (mainly in the United States), and potential

balance sheet losses. Thus, gradualism, and possibly coordination, may be needed to minimize market disruption, including in currency markets.

19. **The U.K. report in particular emphasized the importance of preserving central bank independence, given market concerns about fiscal dominance.** Staff fiscal projections (Figure 6), based on relatively conservative assessments of potential output growth and future interest rates, suggest that already-high U.S., Euro area, and U.K. gross public debt-to-GDP ratios could spiral to almost 100 percent of GDP in the medium term, and 240 percent in Japan (140 percent even on a net basis). In addition, large contingent liabilities from financial guarantees provide further upside risks, most notably in the United Kingdom, although the ultimate fiscal cost is difficult to judge. A firm commitment to central bank independence from the government is key to preserving credibility in price stability.

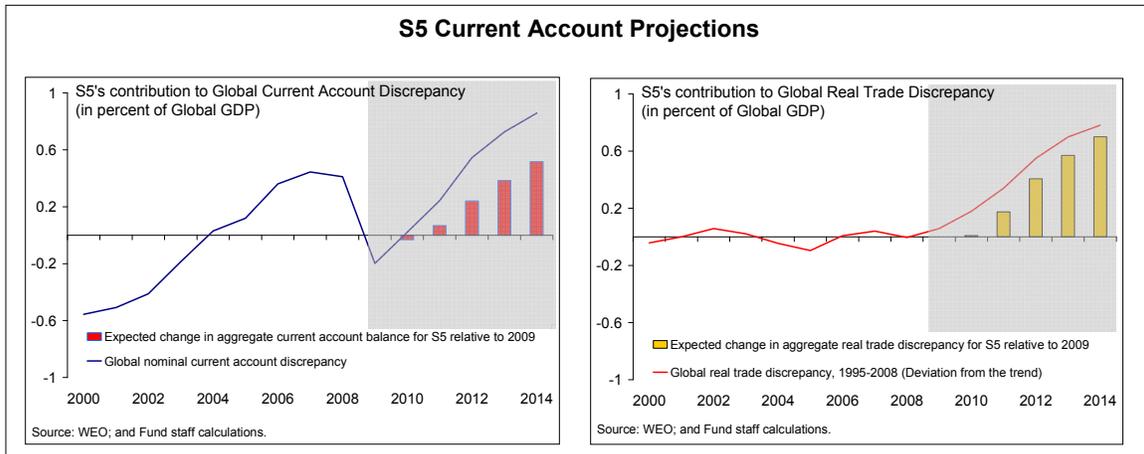
20. **Advanced economy reports argued that credible fiscal consolidation plans could help avoid a vicious cycle between government debt and potential output.** With China again the exception given its relatively stable projected debt ratios, the other four staff reports were concerned that higher expected debt could raise borrowing costs, slow potential output growth, and hence further raise expected debt. The U.K. report in particular emphasized that despite widespread agreement on the need for future fiscal adjustment, additional concrete measures were needed. In the United States and Japan this message was linked to discussion of the supportive role of policy frameworks using debt targets and/or tight limits on the overall deficit to achieve a gradual future fall in the debt ratio. In the Euro area, where the fiscal framework is set by an international treaty encouraging fiscal discipline, staff emphasized the importance of members focusing more on lowering public debt ratios to create support for fiscal consolidation, including through national budgetary rules.

B. Restoring and Rebalancing Growth

21. **The S5 reports present consistent policies for robust recovery but a major concern is that the recovery will be slowed by a lack of global demand.** It is not completely clear that a lower U.S. external deficit will be offset elsewhere and, in fact, macroeconomic projections from S5 Article IVs suggest that this could be a problem.

Underlying Tensions

22. **Current WEO forecasts imply that S5 external balances increase steadily over time—i.e., that S5 economies sell more goods than they buy** (Figure 7). The difference between projected S5 demand and supply can be calculated in nominal terms using their projected aggregate current account balance and in real terms using their real net export position. As the rising difference between S5 supply and demand is not offset elsewhere, an increasing proportion of global output apparently has no outlet. The stronger S5 external position mainly reflects rapid growth in China and the erosion in the



U.S. current account deficit. While China's current account surplus remains around 10 percent of GDP, its dynamic growth adds some $\frac{1}{2}$ percent of world GDP to net global saving in 2014 relative to 2008. A similar boost to global net saving comes from the reduction in the (absolute) size of advanced economy imbalances. Recalling that WEO projections are an aggregation of individual desk assessments based on announced policies and assumed constant real exchange rates, this suggests that current policies and constellation of exchange rates may not be sufficient to ensure the rebalancing of global demand needed to sustain a robust global expansion (this issue will be discussed further in the upcoming fall 2009 *World Economic Outlook*).

23. **A delayed recovery because of a lack of demand would risk a further slowing in S5 potential growth** (Figure 8). Existing downward revisions to potential output and current account imbalances largely reflect a projected increase in the cost of capital as government debt ratios rise and banks hold more prudent capital cushions, as well as a more general reevaluation of the efficiency with which the financial system intermediates saving into investment. A slower recovery would further lower potential output as continuing slack lowers business investment, the unused skills of workers gradually erode, and concerns over fiscal sustainability rise.

24. **Artificially boosting global demand by extending U.S./European stimulus after 2010 could boost short-term growth, but risks undermining growth potential.** In addition to further straining government deficits, the return of global current account imbalances would risk further financial instability, including disorderly exchange rate adjustment across the major currencies, as international credit and debt positions again diverge rapidly. This would undermine potential growth by further increasing risk premiums and the cost of capital.

Policies for a Robust Recovery

25. **Staff and officials agreed on the thrust of needed structural policies but staff often took a more proactive stance on policies.** For example, staff took a more robust

view on the need to consolidate U.S. regulatory bodies, increase U.K. bank disclosure, accelerate the pace of liberalization in Asia, and widen the role of central banks in the new Euro area regulatory system. Overall, staff's recommended strategy involves:

- **Major surplus countries** (China as well as Japan) should rebalance demand towards domestic consumption to become less reliant on exports and investment for growth. In China, which is central to this process as the world's largest saver (even in current dollar terms, let alone PPP exchange rates), priorities are reducing households' precautionary saving by expanding social protection and market alternatives to self-insurance, and for the corporate sector raising the cost of capital, lowering corporate saving, and supporting financial development. In Japan, further deregulation of the agricultural and services sectors (medical, child and elderly care) and financial market development could support rebalancing.
- The **Euro area and Japan** should continue and preferably accelerate structural reforms to boost growth by improving labor and product market flexibility. In the Euro area, the main focus should be on further labor market reforms, while in Japan staff advice centered on addressing product market rigidities.
- **All countries** should reform their financial markets to ensure stable intermediation and appropriate pricing of risk. In addition to the general reform agenda—stronger resolution frameworks, tighter cross-border collaboration, less pro-cyclical capital regulatory frameworks, wider perimeter of regulation to avoid gaps, better stress testing, and higher capital (where warranted)—country-specific proposals included:
 - For the **United States and the United Kingdom**, where securitized assets are more significant, mismatched incentives can be addressed via specific capital charges, systemic risk taxes, and (in the U.K. in particular) better disclosure.
 - For the **Euro area**, where supervision is complicated by the existence of multiple countries, emphasis was placed on methods to better coordinate national supervision on rules, data, practices, and dispute mediation.
 - For **China**, emphasis was placed on the need to improve allocation of capital and raise household income through financial liberalization, with officials taking a more cautious approach than staff about the risks to financial stability and hence speed of implementation. Improving the allocation of domestic saving was also mentioned in the **Japan** report, together with the importance of improving tools for corporate restructuring, particularly of SMEs.

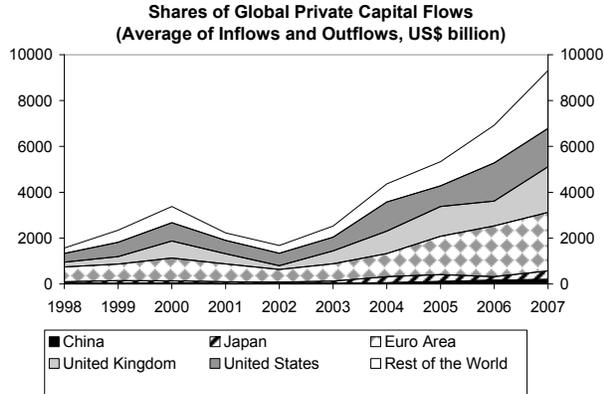
27. **The above package would be more effective if accompanied by a real effective renminbi appreciation, offset by Euro and dollar depreciation.** Using the consistent framework provided by the Consultative Group on Exchange Rates, and with the pound and yen considered to be close to equilibrium following their large crisis-

driven adjustments, the main counterparty to current modest dollar and Euro overvaluation in real effective terms is renminbi undervaluation. China authorities stressed that the needed rebalancing could not be achieved merely through a change in the exchange rate, but would require also the implementation of structural policies. Elsewhere, there was little policy dialogue as floating exchange rates were not seen as a policy lever.

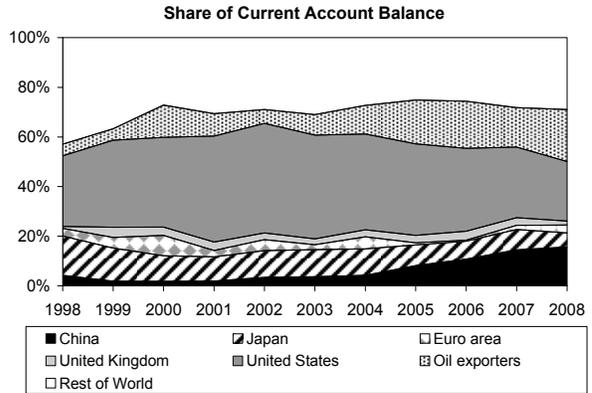
28. **Achieving such ambitious and diverse structural adjustment across major countries will be challenging.** The experience with the Fund's multilateral consultation on global imbalances underlines the difficulties of achieving international coordination even when the broad contours of policies are agreed. This paper has identified areas where surveillance—bilateral and multilateral—could foster such coordination. These include putting more emphasis on examining the consistency of external sector projections, identifying the size of needed rebalancing of global demand, and discussing the international implications of policy actions or policy inflexibilities.

Figure 1. The S5 are Dominant in Global Financial Markets

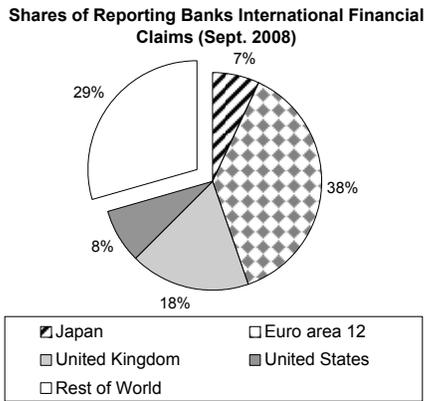
The U.S., Euro Area and U.K. represent over two thirds of gross international capital flows



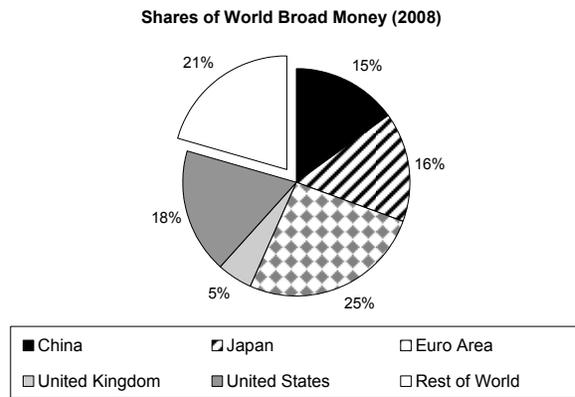
The S5 account for most of net capital flows, despite the increased share of oil exporters



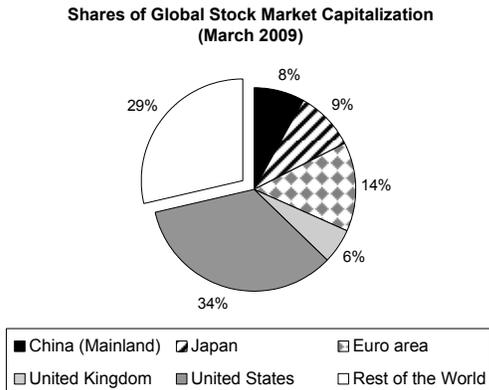
Euro Area and U.K. banks account for 60 percent of BIS reported international financial claims



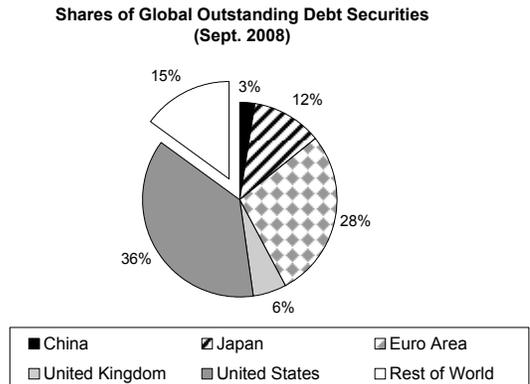
The S5 represent close to 80 percent of global broad money



The S5's share of global stock market capitalization is close to 70 percent



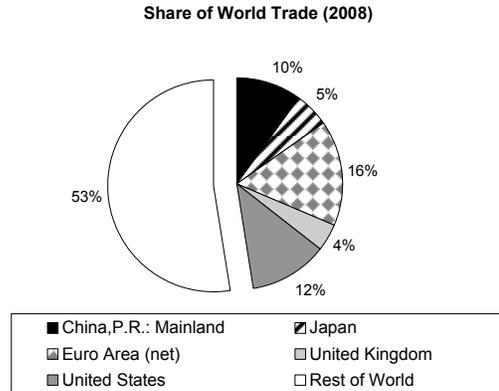
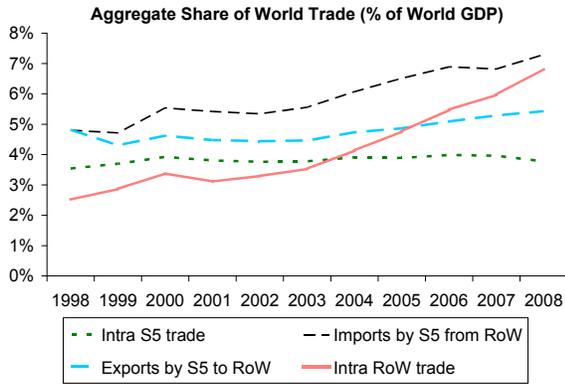
The S5's share of global outstanding debt securities is 85 percent



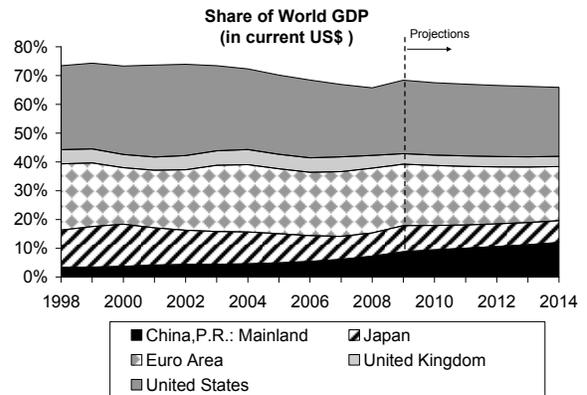
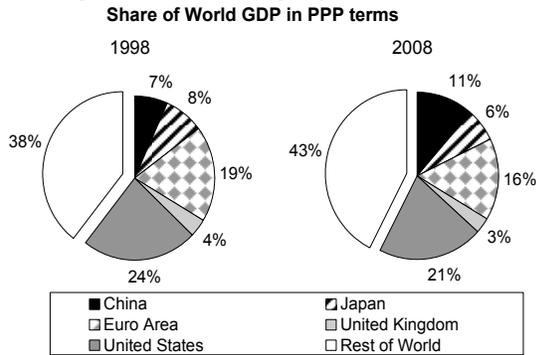
Sources: IFS data for broad monetary aggregates; BIS data for international financial claims; World Federation of Exchanges for stock market data ; WEO for fiscal data ; and Fund staff calculations.

Figure 2. The S5 Economies: Key Players in the Global Economy

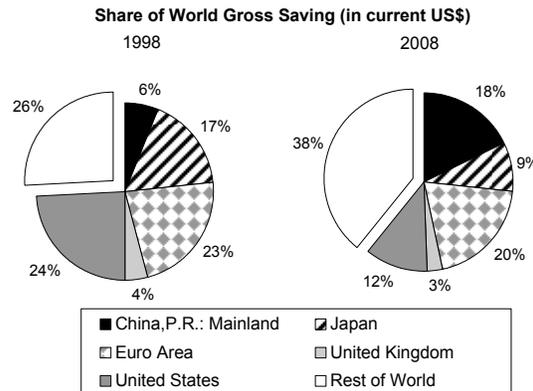
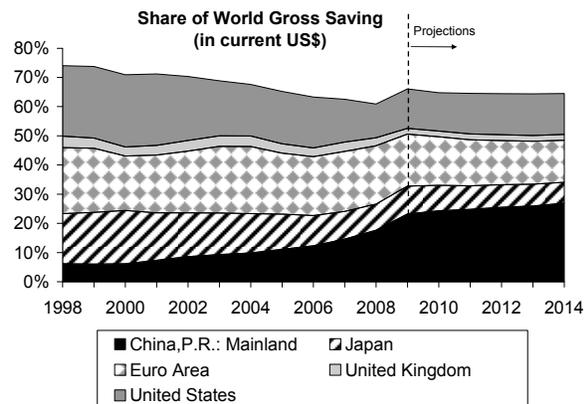
The S5 continues to play an important role in global trade. Trade within the S5 (net of intra Euro Area trade) has kept pace with GDP growth, but trade excluding the S5 has grown faster.



The S5 account for the majority of global GDP, but this share has gradually declined. The ratio is likely to stabilize, given the increasing importance of the fast-growing China.

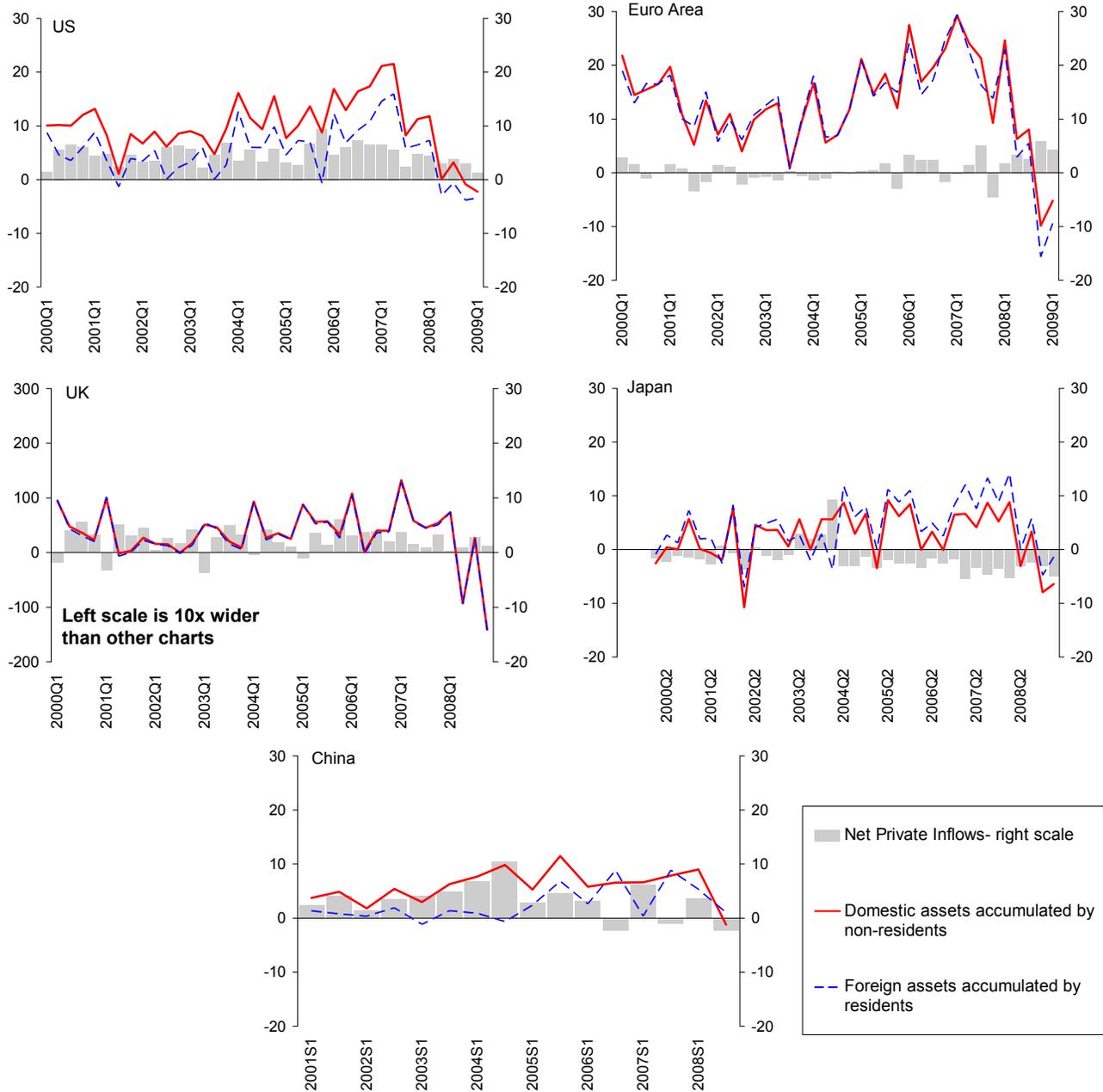


The S5 accounts for an even larger share of global gross saving. China has become the largest saver in the world this year with close to 20 percent of global gross saving, edging out the Euro area.



**Figure 3. Private Cross-Border Capital Flows, Gross and Net
(In percent of GDP)**

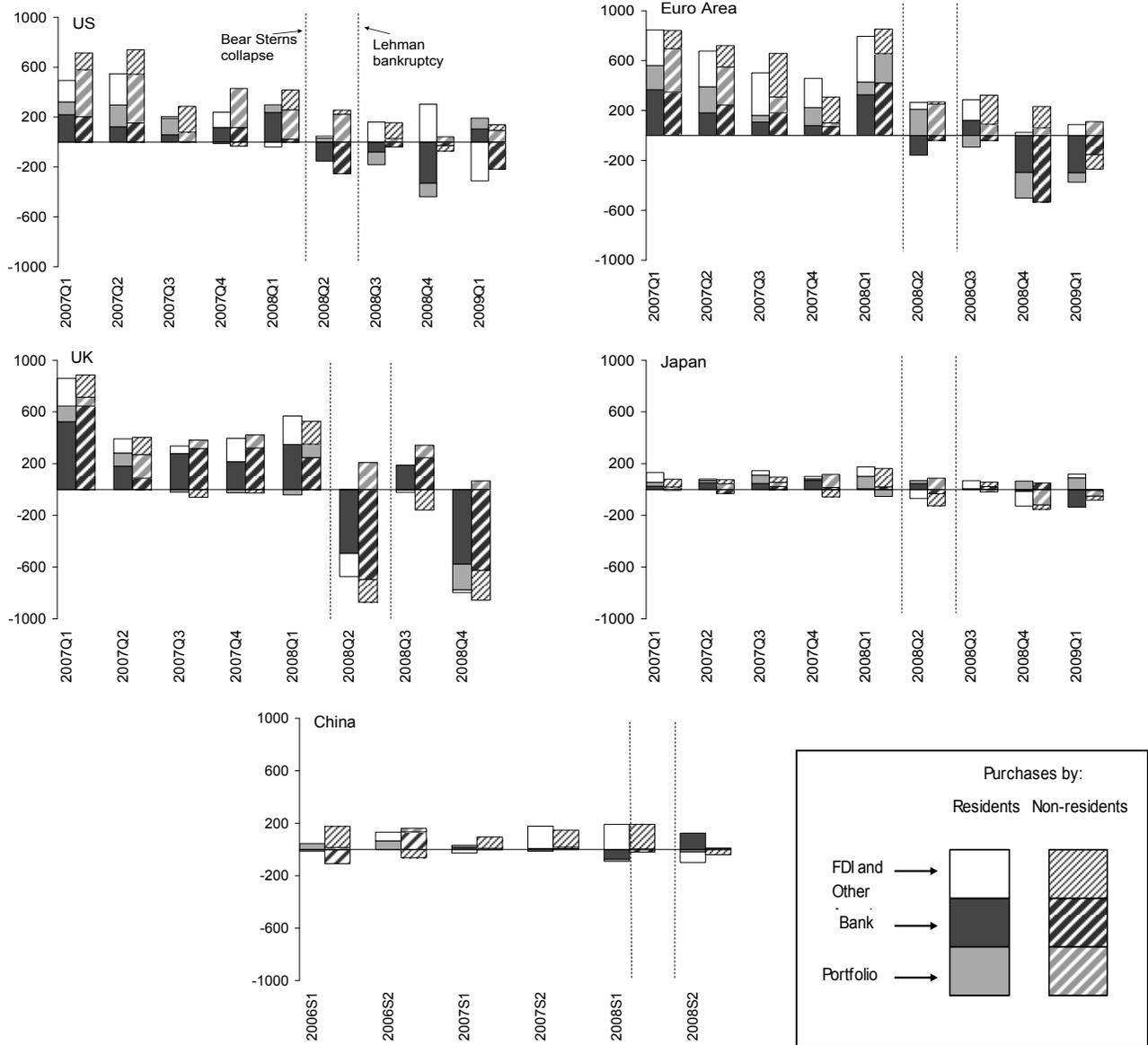
Gross capital flows are larger and much more volatile than net flows (especially in the U.K.). Turnover in the international markets is much higher in the U.S., Euro Area and (especially) in the U.K. than Japan and China



Sources: IFS and Fund staff calculations.

Figure 4. Private Cross-Border Asset Purchases 1/
(In U.S.\$ billion)

Bank deleveraging was the main driver of the sudden stop in gross capital flows, particularly in the United Kingdom.



Sources: IFS and Fund staff calculations.

1/ The first series shows the net accumulation of foreign assets by residents; a positive value implies acquisition of foreign assets by residents. The second series shows the accumulation of domestic assets by nonresidents; a positive value implies acquisition of domestic assets by nonresidents.

Table 1. Timeline for Financial Sector Actions, October 2008 - May 2009

(Types of measures: I=Deposit and asset guarantees; II=Bank support; III=Liquidity and credit easing measures)

	U.S.	U.K.	Euro Area 1/	Japan	China
	Deposit guarantee limit raised	Deposit guarantee limit raised; bank debt guarantee	Deposit guarantee limit raised; France, Germany and Italy announce bank financing guarantee plans		
October					
I	TARP; CPFF; MMIFF.	Bank capital increased.	France and Germany announce recapitalization amounts made available		
II	Swap facilities with foreign central banks				JGS types eligible for repo collateral extended; ABS acceptable collateral types also extended
III					
November					
II	TARP used for bank equity purchases				
III	TALF; GSE purchases				
	GMAC support		Bank recapitalization guidelines issued; blueprint for bank debt guarantee scheme		
December					
II	Liquidity facilities extended; MBS purchases announced				Acceptable corporate collateral ratings lowered; SME support measures introduced; increase in purchases of JGBs
III					
January					
I	ABS paper guarantees				
II	BAC support	Bank SME loans guaranteed			
III		Discount window maturity extended			State-owned banks to buy stakes in SMEs; purchases of commercial paper
February					
II	Financial stability plan and bank stress tests announced; PPIF; Citigroup support	Northern Rock recapitalized; Bank asset protection scheme introduced	Guidelines issued on impaired assets	BoJ to buy shares of banks	
III	Homeowner support plan; GSE support;	Corporate bond secondary market scheme published		Purchases of corporate bonds	
March					
II	AIG support				Capital injected into banks; loans to be given to banks
III	Consumer loan support				Increase in purchases of JGBs
April					
I		EC approved asset backed securities guarantee scheme	Germany proposes "bad bank" plan		
May					
III	SCAP results announced		ECB announces plan to purchase covered bonds		

1/ Refers to changes made at the Euro Area level unless otherwise indicated.

Source: IMF, Global Policy Responses to Financial Crisis Range of Interventions: Tables I and II (updated as of May 26, 2009)

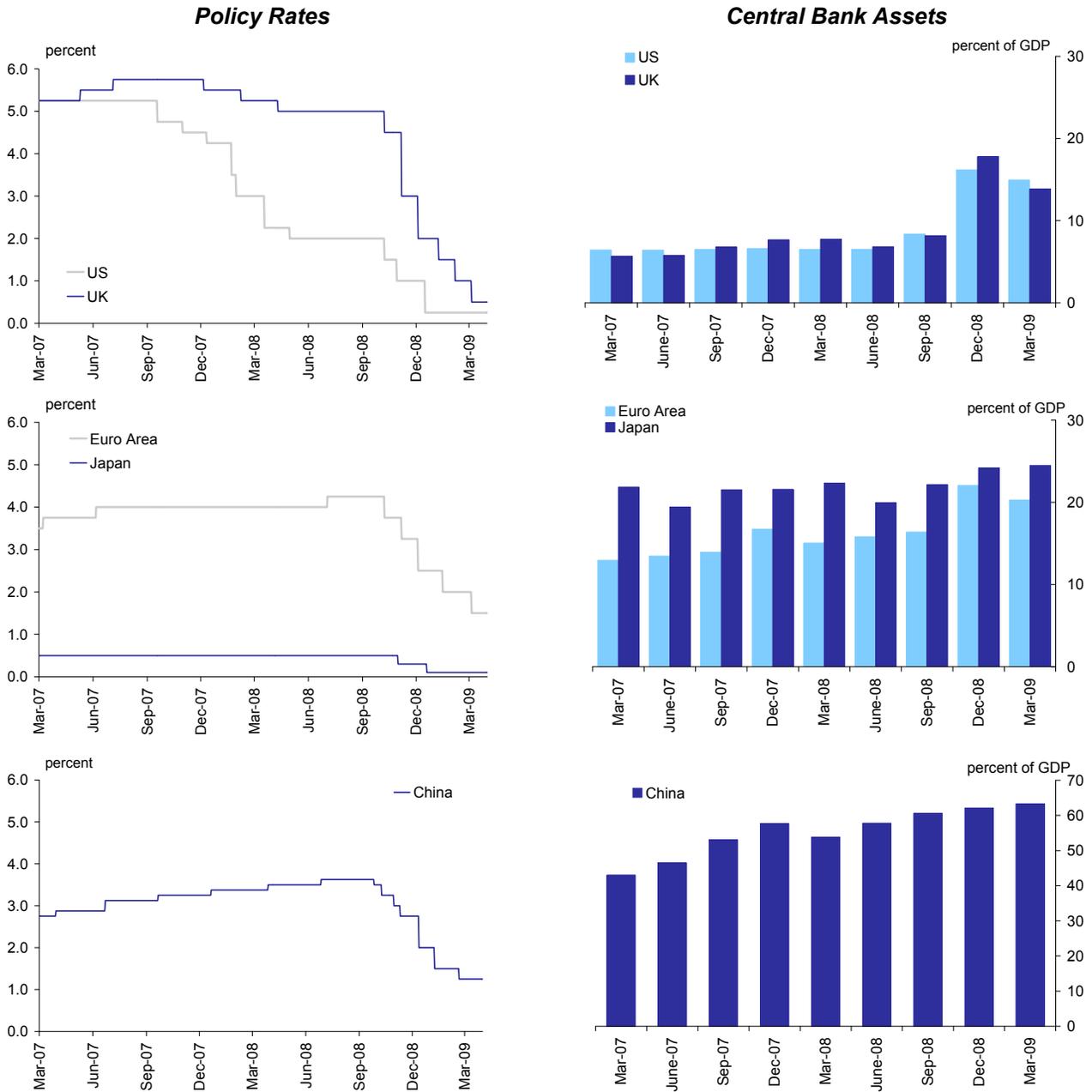
Table 2. Exiting from Blanket Guarantees: Selected Country Experiences

Country	Blanket Guarantee	Coverage	Elimination strategy
Finland 1993–98	The government announced in August 1992 that the stability of the Finnish banking system would be secured. Guarantee was formalized by parliament in January 1993, replacing the previous partial deposit guarantee.	All bank liabilities (deposits, contingent and foreign currency liabilities); equity holders were excluded.	Removed in December 1998.
Indonesia 1997–2007	Approved in January 1998, replacing a partial insurance scheme introduced in October 1997.	All deposits and other credits of all domestic banks (excluding shareholders' capital, subordinated debt, and insider deposits).	Initially set to last at least two years, phased out between July 2005 and March 2007.
Japan 1998–2005	Announced by the Ministry of Finance in November 1997 and passed into law in May 2000, replacing the limited insurance scheme.	Deposits and other credits of commercial banks, credit cooperatives, labor and credit associations.	Lifted for time deposits in April 2002 and for demand deposits in April 2005.
Korea 1997–2000	Introduced in August 1997 for banks' external liabilities and extended in November 1997.	All liabilities (excluding shareholders' capital and subordinated debt) of banks, securities companies, insurance companies, merchant banks, mutual savings and finance companies, and credit unions. Overseas branches were also included.	Lifted at end-2000 as initially planned.
Sweden 1992–96	Announced in September 1992 and approved by parliament in December. There was no existing formal deposit insurance scheme.	Deposits, contingent and foreign liabilities (excluding equity) of banks, their subsidiaries and some specialized financial institutions.	Removed in July 1996.
Turkey 1997–2004	An unofficial guarantee had been in place from 1997. It was officially confirmed in December 2000 and became effective in January 2001.	Deposits, contingent and foreign liabilities (excluding equity) of private and state banks. Excluded were offshore deposits and deposits by owners, deposits in connection with criminal activities, subordinated debt, and shareholder equity.	Abolished in July 2004 and replaced with a limited deposit insurance scheme, protecting savings deposits up to TL 50 billion (\$37,000).

Source: Ireland: Staff Report for the 2009 Article IV Consultation.

Figure 5. Monetary Policy Responses to the Crisis

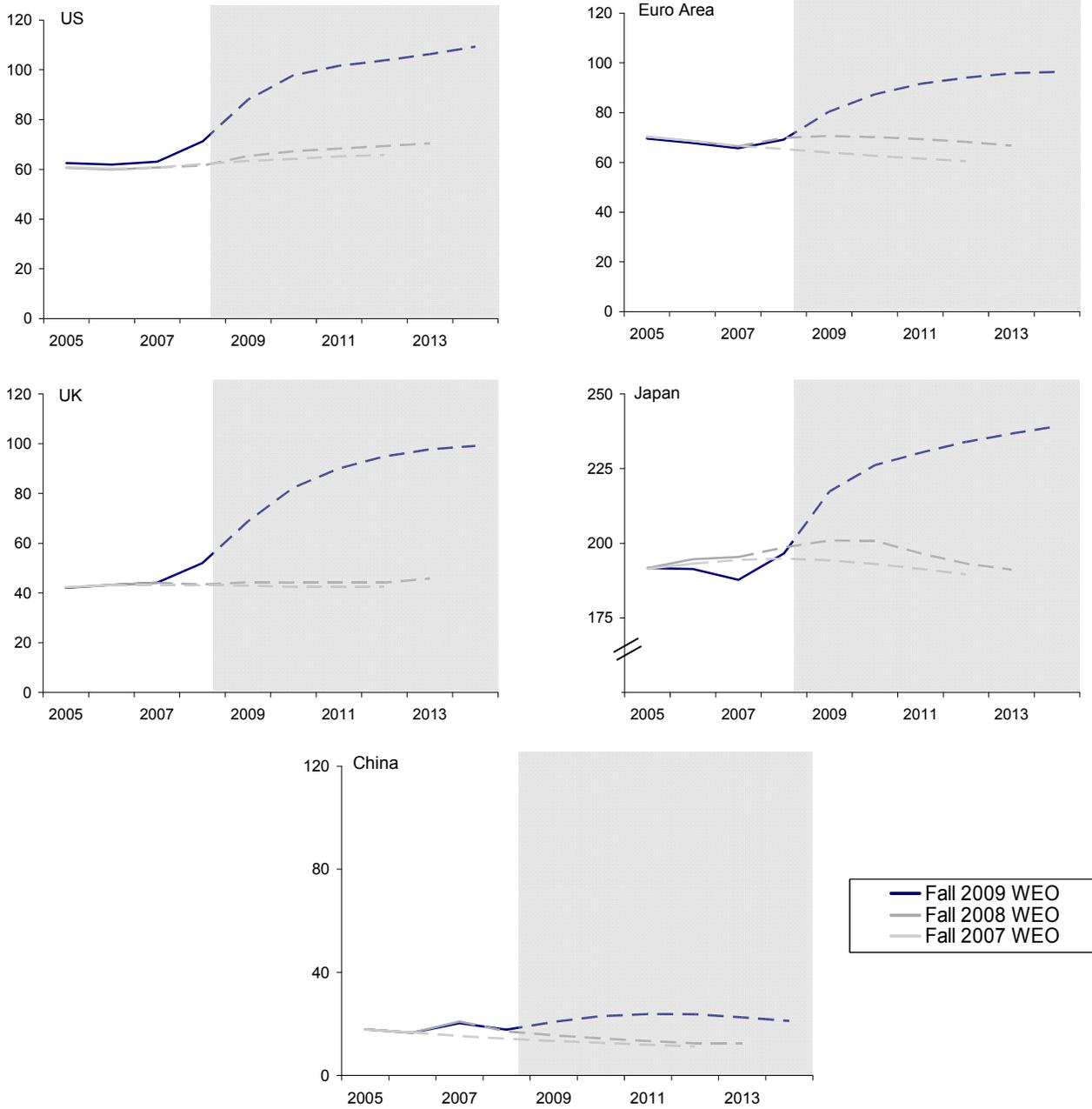
Monetary easing began in the U.S. and was followed quickly by the U.K. Policy rates in the Euro Area came down later. The expansion of central bank balance sheets has been most dramatic in the U.S and U.K.



Sources: Bloomberg, CEIC and Fund staff calculations.

**Figure 6. Projected Public Debt Paths
(In percent of GDP)**

The crisis has generated rapid increase in debt ratios. Credible plans for the future consolidation are needed to put these on a clear declining path.



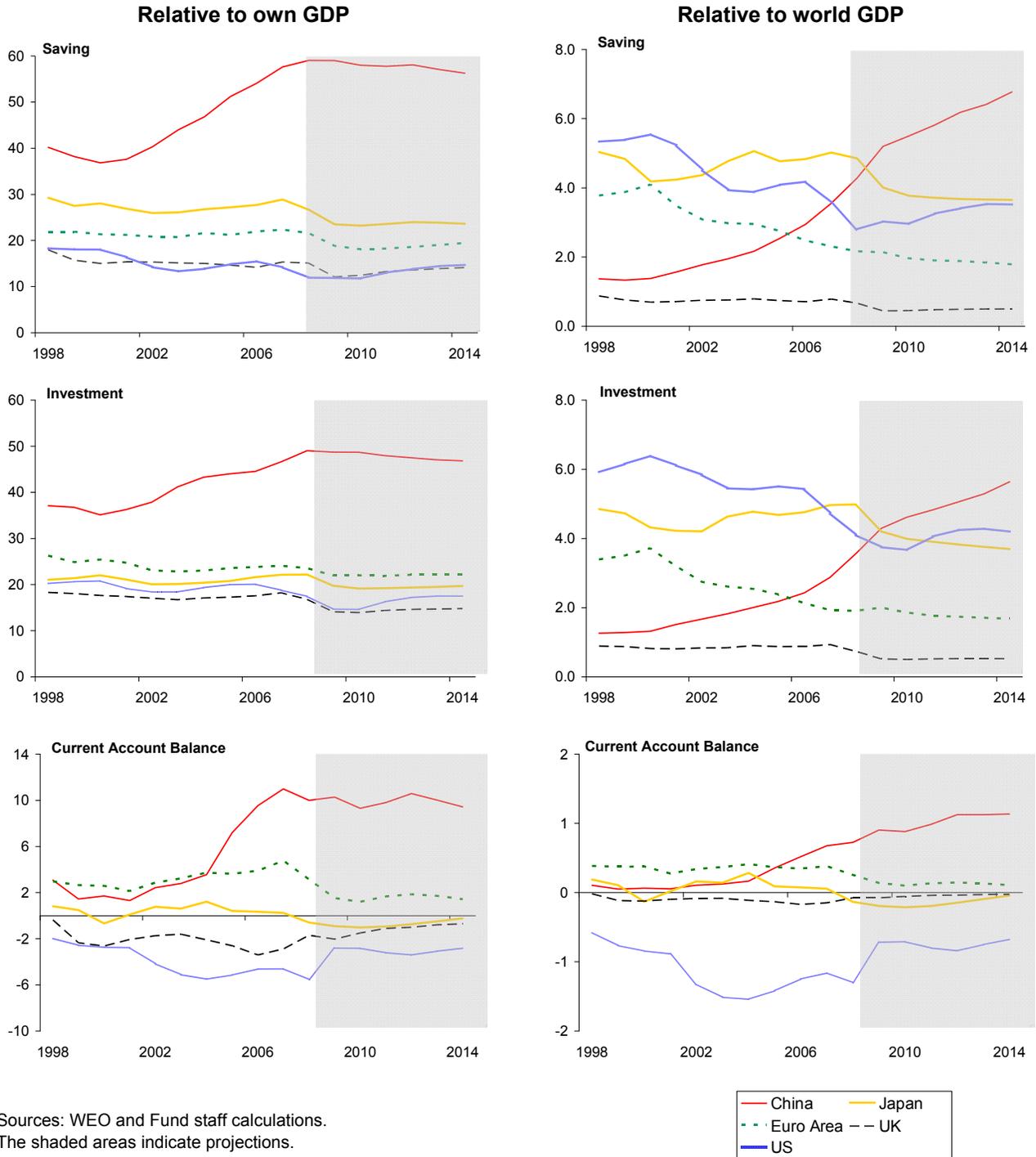
Sources: IFS and Fund staff calculations.

Note: 1. General government net debt for China, gross debt for other countries.

2. The shaded areas indicate projections (for Fall 2009 WEO).

Figure 7. Trends in Current Account Balances, Saving and Investment

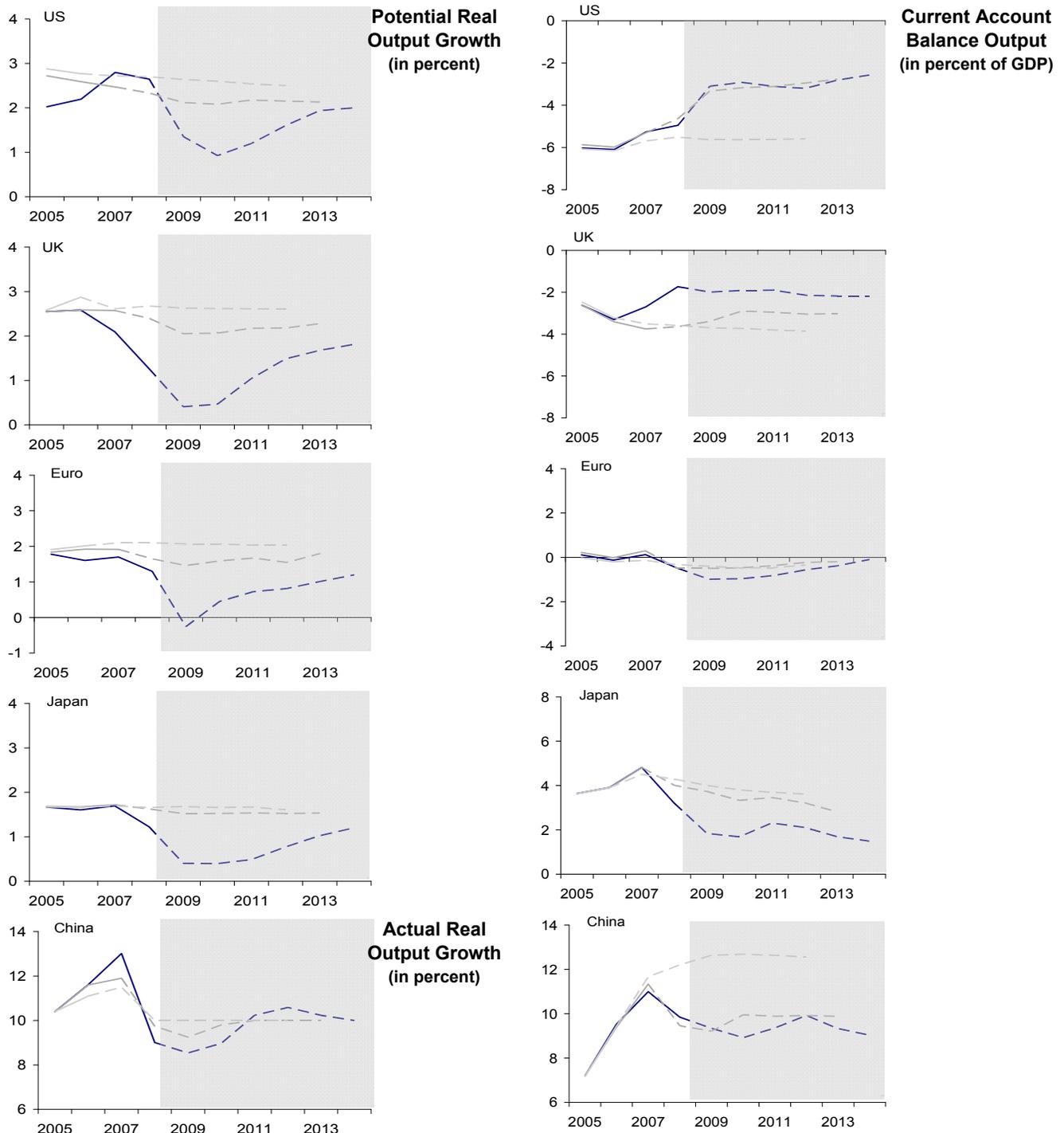
WEO forecasts project a fall in the absolute size of current accounts in the advanced countries, while the Chinese surplus remains high.



Sources: WEO and Fund staff calculations.
The shaded areas indicate projections.

Figure 8. Projected Potential Real Output Growth and Current Account Balance

The crisis has lowered estimates of potential growth as the cost of capital rises, reflecting a combination of less effective financial intermediation and higher government debt. The pullback from intermediation is also likely to reduce external imbalances.



Sources: IFS and Fund staff calculations.
 Note: The shaded areas indicate projections (for Fall 2009 WEO).

— Fall 2009 WEO
 - - - Fall 2008 WEO
 — Fall 2007 WEO

ANNEX: TIMELINE OF THE CRISIS

The definition of “the crisis” period is complex as it involves market events and macroeconomic developments that evolved across countries over a couple years. The five systemic economies have experienced the crisis with varying levels of severity over its course:

- The U.S. housing downturn was underway by late-2006, with U.S. home prices peaking in the mid-2006 according to the Case-Shiller indices.
- The housing downturn revealed the nature of some “toxic assets” in off-balance sheet entities in early 2007. The potential systemic effects of these assets on the banking sector did not become apparent until Bear Stearns had to rescue one of its hedge funds in June, and BNP Paribas froze three of its funds in August 2007. The need for exceptional support for the banking sector in Europe became apparent at Northern Rock and a few German banks in late 2007.
- Real U.S. GDP declined every quarter starting in Q3 2008, when oil prices peaked. The NBER later declared that the U.S. recession began in December 2007.
- Bear Stearns collapsed in March 2008, but its Federal Reserve-aided purchase by JP Morgan was initially seen as a reprieve. Only in September 2008, with Lehman Brothers’ bankruptcy, did a consensus emerge that a global crisis had unfolded.

Unless otherwise stated, what is meant by “the crisis” in this paper is the internationalization of financial and macroeconomic turmoil that took place after the collapse of Lehman Brothers.