Group of Twenty

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Global Economic Policies and Prospects

Note by the Staff of the International Monetary Fund

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Executive Summary

Global economic activity is falling—with advanced economies registering their sharpest declines in the post-war era—notwithstanding forceful policy efforts.

According to the latest IMF forecast, global activity is expected to decline by around ½ to 1 percent in 2009 on an annual average basis, before recovering gradually in the course of 2010.

Turning around global growth will depend critically on more concerted policy actions to stabilize financial conditions as well as sustained strong policy support to bolster demand.

- Restoring confidence is key to resolving the crisis, and this calls for tackling head-on problems in the financial sector. Policymakers must resolve urgently balance sheet uncertainty by dealing aggressively with distressed assets and recapitalizing viable institutions.

- Since financial market strains are global, greater international policy cooperation is crucial for restoring market trust. Monetary policy should be eased further by reducing policy rates where possible, and supporting credit creation more directly.

Delays in implementing comprehensive policies to stabilize financial conditions would result in a further intensification of the negative feedback loops between the real economy and the financial system, leading to an even deeper and prolonged recession.

Two additional issues will have a significant impact on the outlook: the effectiveness of the fiscal policy response to the crisis; and external financing risks and banking sector vulnerabilities in emerging economies.

- *The estimated growth and employment effects from the fiscal stimulus announced so far, including from the operation of automatic stabilizers, are estimated to be large.* Discretionary fiscal stimulus being provided by G-20 countries is sizeable, but falls short of the 2 percent of aggregate GDP in 2009 and 2010 recommended by the Fund, particularly in 2010. Given the likely protracted nature of the downturn, countries with fiscal room should plan to sustain stimulus in 2010.

- *Upfront government financing needs related to financial sector support are sizeable, but this support is critical to stabilize the financial system and for restoring confidence.* At the same time, reinforcing fiscal credibility is paramount. Thus, fiscal support needs to be anchored by a sustainable medium-term fiscal framework.

- *Capital account pressures are intensifying for many emerging economies, amidst a contraction in cross-border lending.* Some governments may have to support domestic corporates unable to raise financing to fulfill their rollover needs. Emerging economy banks, especially in emerging Europe, may need to be recapitalized in view of prospective losses. As the crisis prolongs, an increasing number of emerging economies will find room for policy maneuver becoming increasingly limited. Large-scale official support is likely to be needed from bilateral and multilateral sources.

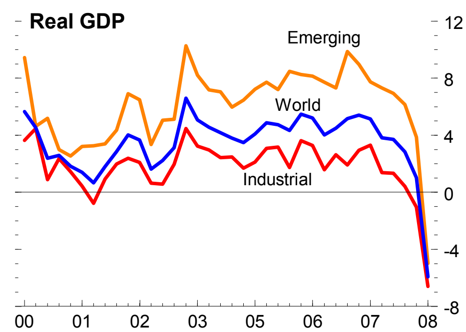
I. Recent Developments, Prospects, and Risks[1]

Global economic activity is falling. Advanced economies are experiencing their sharpest declines in the post-war era, reflecting an intensification of the corrosive interplay between the financial crisis and real activity, notwithstanding continued policy efforts. Global activity is expected to decline by around ½ to 1 percent in 2009 on an annual average basis, before a recovery emerges gradually in the course of 2010. The turnaround depends critically on more concerted policy actions to stabilize financial conditions as well as sustained strong policy support to bolster demand.

A. Recent Developments

1. **The prolonged financial crisis has battered global economic activity beyond what was previously anticipated.** Global GDP is estimated to have fallen by an unprecedented 5 percent in the fourth quarter (annualized), led by advanced economies, which contracted by around 7 percent. GDP declined in the fourth quarter by around 6 percent in both the United States and the euro area, while it plummeted at a post-war record of 13 percent in Japan. Growth also plunged across a broad swath of emerging economies, reflecting the confluence of weakening external demand, tightening financing constraints, and plunging commodity prices. Global inflation continues to drop rapidly, reflecting the sharp fall in economic activity and the collapse of commodity prices since mid-2008.

Global Growth
(In percent; quarter over quarter annualized)

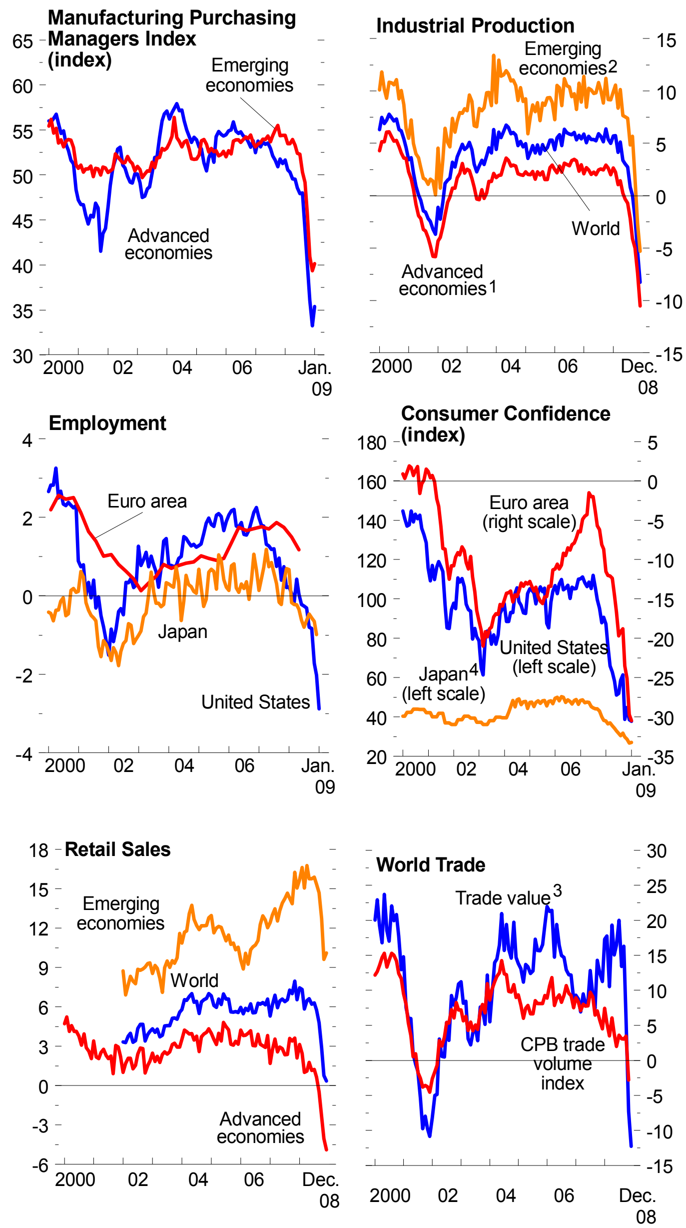


Source: IMF, Global Data Source and IMF staff estimates.

2. **Recent data point to sustained weakness in the period ahead** (Figure 1). Global PMIs continue to weaken both in advanced and emerging economies. Trade volumes continue to shrink rapidly, while production and employment data suggest that the global activity continues to contract in the current quarter.

[1] Prepared by staff of the IMF's Research Department, with input from the Fiscal Affairs, Monetary and Capital Markets, and the Strategy, Policy and Review Departments.

Figure 1. Current and Forward-Looking Indicators
(Percent change from a year earlier unless otherwise noted)



Sources: CPB Netherlands Bureau for Economic Policy Analysis for CPB trade volume index; for all others, NTC Economics and Haver Analytics.

[1] Australia, Canada, Denmark, euro area, Japan, New Zealand, Norway, Sweden, Switzerland, United Kingdom, and United States.

[2] Argentina, Brazil, Bulgaria, Chile, China, Colombia, Czech Republic, Estonia, Hong Kong SAR, Hungary, India, Indonesia, Israel, Korea, Latvia, Lithuania, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Romania, Russia, Singapore, Slovak Republic, South Africa, Taiwan Province of China, Thailand, Turkey, Ukraine, and Rep. Bolivariana de Venezuela.

[3] Percent change from a year earlier in SDR terms.

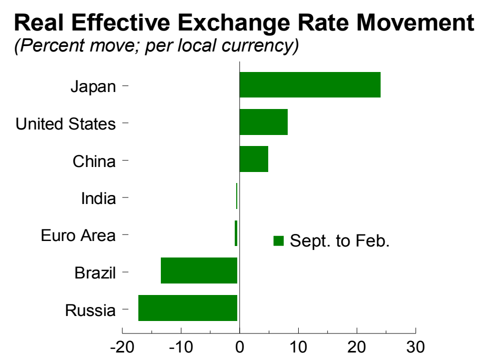
[4] Japan's consumer confidence data are based on a diffusion index, where values greater than 50 indicate improving confidence.

3. **Global financial strains remain elevated, weakening growth** (Figure 2).

- In *advanced economies,* with limited progress so far in addressing distressed assets, uncertainty regarding bank solvency remains high, preventing a restoration of market trust. Credit conditions continue to be severely impaired, while markets for securitized assets (except for mortgage securities with government guarantees) remain frozen. Recent bank lending surveys in the United States and the euro area indicate a drop in credit demand, amidst tightening lending standards. Despite the deepening recession, prospects of rising borrowing needs are preventing bond yields from declining. Sovereign CDS spreads are also under pressure, notably for advanced economies with high debt levels or severe banking system problems relative to the size of their economies.

- *Emerging and developing economies* continue to face acute external financing pressures. This is particularly the case for emerging economy corporates facing large rollover requirements, threatening large-scale private sector defaults that could potentially undermine growth prospects. This, in turn, would worsen prospects in the advanced economies and trigger a vicious spiral (see Section II).

4. **Enduring financial stress has continued to fuel sharp currency movements.** The dollar and the yen have continued to appreciate in real effective terms, with the strengthening of the yen being particularly strong. The renminbi has also continued to appreciate over the past year. Several other emerging economy currencies have experienced significant depreciations, however (the Brazilian real, Russian ruble, the Korean won, Mexican peso, Polish zloty, and Indonesian rupiah).



5. **Commodity price declines have not abated and have led to massive terms of trade shifts.** Looking forward, commodity prices are unlikely to recover while global activity is slowing.

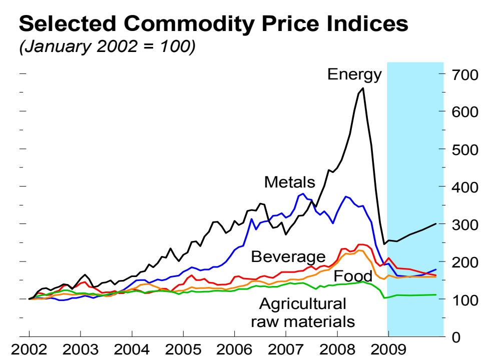
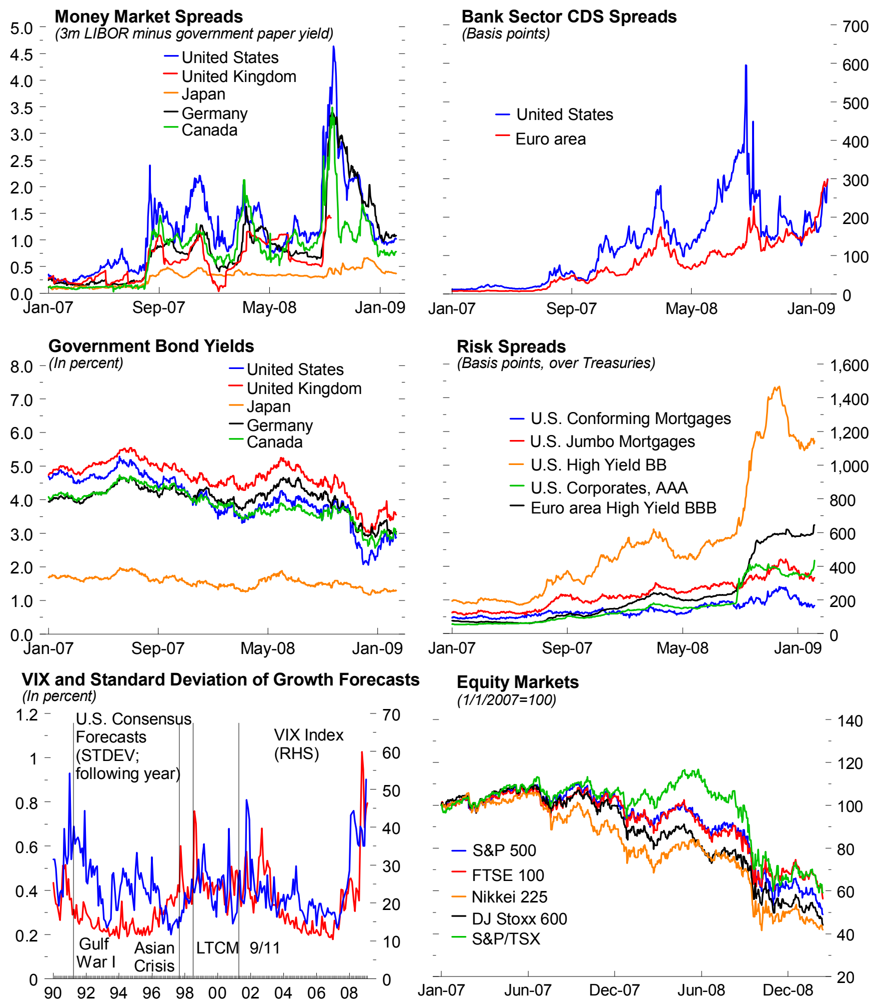


Figure 2. Financial Markets Remain Under Heavy Stress

Interbank lending came under severe stress as concerns about the banks' creditworthiness flared up. Government bond yields were driven down by policy rate cuts and flight to safety, while spreads on risky assets shot up. Recent government intervention has reduced stress somewhat, but things are far from normal.



B. Prospects

6. **Against this background, global activity is expected to contract in 2009 for the first time in 60 years**. Global activity is now projected to contract by ½ to 1 percent in 2009 on an annual average basis, before recovering gradually in 2010 (Table 1). The revised projections relative to the January WEO update reflect unrelenting financial turmoil, negative incoming data, sinking confidence, and the limited effect to date of policy responses with respect to the restoration of financial system health.

- *Global growth is still projected to stage a modest recovery next year*, conditional on comprehensive policy steps to stabilize financial conditions, sizeable fiscal support, a gradual improvement in credit conditions, a bottoming of the U.S. housing market, and the cushioning effect from sharply lower oil and other major commodity prices.

- *However, in the event of further delays in implementing comprehensive policies to stabilize financial conditions, the recession will be deeper and more prolonged*, notwithstanding macroeconomic policies aimed at bolstering demand.

Table 1. Overview of the *World Economic Outlook* Projections
(Percent change, unless otherwise noted)

						Q4 over Q4		
		Projections		Difference from January 2009 WEO Projections		Estimates	Projections	
	2008	2009	2010	2009	2010	2008	2009	2010
World output	**3.2**	**-1.0 to -0.5**	**1.5 to 2.5**	**-1.5 to -1.0**	**-1.5 to -0.5**	0.2	**-0.5 to 0.5**	**2.0 to 3.0**
Advanced economies	0.8	-3.5 to -3.0	0.0 to 0.5	-1.5 to -1.0	-1.5 to -0.5	-1.7	-2.5 to -1.5	0.5 to 1.5
United States	1.1	-2.6	0.2	-1.0	-1.4	-0.8	-1.8	1.6
Euro area	0.9	-3.2	0.1	-1.2	-0.2	-1.3	-2.2	0.9
Japan	-0.7	-5.8	-0.2	-3.2	-0.8	-4.6	-3.1	0.5
Emerging and developing economies	6.1	**1.5 to 2.5**	**3.5 to 4.5**	**-2.0 to -1.0**	**-1.5 to -0.5**	3.3	**2.5 to 3.5**	**4.0 to 5.0**

Source: World Economic Outook database, March 2009.

7. **Advanced economies will suffer deep recessions in 2009**. G-7 economies are expected to experience the sharpest contraction for these countries as a group in the post-war period by a significant margin. With negative momentum, and the limited effect of policy actions to lift uncertainty or address financial strains to date, the adverse macro-financial loops have intensified, and prospects for recovery before mid-2010 are receding.

- In the *United States*, the contraction in activity in 2009 is expected to push up the output gap to levels not seen since the early 1980s. Assuming that financial market conditions improve relatively rapidly in the second half of 2009, based on the implementation of a detailed and convincing plan for rehabilitating the financial sector, as well as continued policy support to bolster domestic demand, growth is expected to turn positive in the course of the third quarter of 2010.

- In the *euro area*, the decline in activity in 2009 reflects a sharp collapse in external demand, the impact of housing market corrections in some member states (which began later than in the U.S.), and an intensification of financing constraints. The impact of falling external demand has been larger and policy stimulus more moderate than in the United States, though automatic stabilizers are somewhat larger in the euro area.

- In *Japan*, the sharp fall in output reflects plunging net exports and business investment and faltering private consumption. The financial sector—though not at the epicenter of the crisis—is also suffering ill effects, weighing upon growth prospects.

8. **In emerging and developing economies, as well as in low-income economies, growth will continue to be impeded by financing constraints, lower commodity prices, weak external demand, and associated spillovers to domestic demand**. Activity is expected to expand only weakly in 2009—before recovering gradually in 2010. Some economies will suffer serious setbacks.

- *Central and Eastern Europe (CEE) and the Commonwealth of Independent States are being the most adversely affected.* The global financial disruptions have severely affected the CEE region in particular, given the region's large current account deficits. Several countries are facing a sharp contraction in capital inflows, with those suffering the greatest damage having sizeable fiscal or external deficits (Baltic countries, Hungary, Croatia, Romania and Bulgaria).

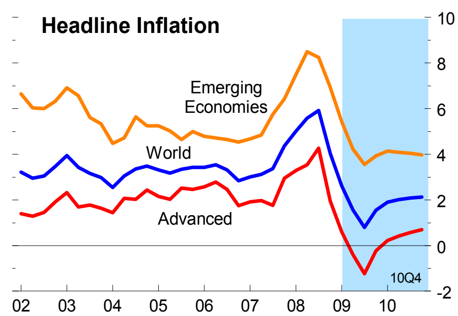
- In *Latin America*, tight financial conditions and weaker external demand are a drag on growth in the region, with growth in Brazil decelerating sharply and Mexico projected to enter a recession.

- *Emerging Asia is being hurt through its reliance on manufacturing exports.* The region's manufacturing activity has been particularly hurt by collapsing IT exports. Growth in China is also slowing, albeit from a high rate (13 percent in 2007), and domestic demand is being supported by strong policy stimulus.

- *In Africa and the Middle East, growth is also projected to slow, but more modestly than in other regions.* In Africa, growth is expected to moderate particularly in commodity exporting countries, and several countries are experiencing reduced demand for their exports, lower remittances, and foreign direct investment (FDI), while aid flows are under threat.[2] In the Middle East, the effects of the financial crisis have been more limited so far. Despite the sharp drop in oil prices, government spending is largely being sustained to cushion the toll on economic activity.

9. **Inflation will continue to retreat due to the combination of lower commodity prices and increasing economic slack, with deflation risks growing in advanced economies**. Staff analysis suggests that G-7 deflation vulnerability has risen above its previous peak, reflecting high risks in Japan and the United States (on a projected basis) and moderate risks in several euro area members—including Germany, Italy, and France.[3] Moreover, the vulnerability index understates the risk that deflation could become more entrenched, because it does not take account of significant house price declines in some countries.

Global Inflation
(Percent change; year-over-year)



[2] See "The Implications of the Global Financial Crisis for Low-Income Countries", International Monetary Fund, SM/09/57.

[3] See J. Decressin and D. Laxton (2009), "Gauging Risks for Deflation," IMF Staff Position Note SPN/09/01. The methodology for calculating the deflation vulnerability index is based on earlier work of the Fund's deflation task force; see M. Kumar and others (2003), *Deflation: Determinants, Risks and Policies*, IMF Occasional Paper No. 221.

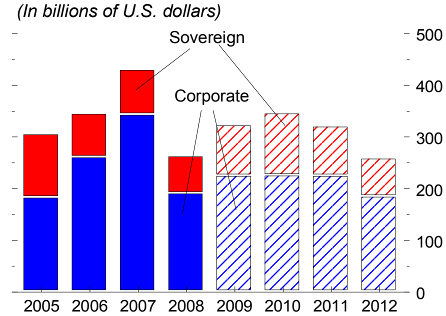
C. Risks

10. **Notwithstanding a significant downward revision to the forecast, downside risks continue to dominate.** The overarching risk is that further delays in implementing policies to stabilize financial conditions will inevitably lead to an intensification of the negative feedback loops between the real economy and the financial system. A further deterioration in the financial strength of banks in advanced economies due to mounting losses could propel a deeper and longer downturn, producing a more severe credit crunch affecting real activity. Falling home prices and rising defaults in the United States, United Kingdom, and parts of the euro area are already exacerbating strains in the financial system. Mounting layoffs would further dampen consumption and residential investment.

11. **Deflation risks, concentrated in the major advanced economies, could reinforce a deeper and longer downturn.** Expectations of falling prices could encourage consumers and businesses to postpone spending and push the economy into deeper recession. With policy rates already near the zero bound in many instances, monetary authorities have limited capacity to counteract deflationary pressures through traditional means, while the effectiveness of less conventional approaches is far less certain.

12. **There is a serious risk that emerging economies will be unable to secure external financing**. A growing range of emerging economy sovereigns and corporates may not have sufficient access to foreign financing, especially given global deleveraging, the potentially large borrowing needs of advanced economies and increased home bias. Overall, risks are largest for emerging economies that rely on cross-border flows to finance current account deficits or to fund the activities of their financial or corporate sectors.

Historical Issuance and Upcoming Rollover of FX-Denominated Debt
(In billions of U.S. dollars)



13. **The specter of trade and financial protectionism is a rising concern**. Notwithstanding commitments by G-20 countries not to resort to protectionist actions, there have been worrying slippages. The lines are being blurred between public intervention to contain the impact of the financial crisis on troubled sectors and inappropriate production subsidies to industries whose long-term viability is questionable. Some financial policy support measures are also steering domestic banks toward local lending. At the same time, there are growing risks that some emerging economies facing pressures in their external accounts may seek to impose capital controls.

14. **Yet, global financial and economic conditions could rebound faster than anticipated if policy measures are credibly strengthened**. The current crisis is importantly a "crisis of confidence." While exceptional uncertainty far exceeds that seen during typical downturns, the right policies could help turn around confidence, providing a lift to spending and global growth. The key is dealing credibly with problem assets and concerns about banking solvency.

II. Policy Challenges

Policy actions to resolve the financial crisis have been broad in scope, but have yet to achieve a decisive breakthrough. A coherent and internationally coordinated set of policies is required urgently, directed at restoring health to the financial system and supporting demand to break the downward spiral involving the real and financial sectors. To break the negative feedback loop and maximize the effectiveness of fiscal and monetary policy stimulus, it is extremely critical to resolve the uncertainty concerning the balance sheets of financial institutions, notably by dealing aggressively with distressed assets and recapitalizing viable institutions. At the same time, given the large crisis-related spending and medium-term demographic costs, it is equally important to anchor fiscal stimulus in the context of a credible medium-term fiscal framework.

A. Financial Sector Policies

15. **The restoration of financial sector stability and market trust is a necessary condition for reversing the downward momentum of the global economy, enhancing the effectiveness of macroeconomic policies, and paving the way for an enduring recovery.** Systematic and proactive approaches have started to supplant ad hoc interventions, but financial sector policies still lack coherence and credibility. Moreover, to the extent that financial market strains are global, greater international policy cooperation is crucial for restoring market trust (Box 1 provides a summary of the banking sector policies of the G-20 countries in response to the crisis and policy requirements going forward.) Policy approaches need to include the following essential elements:

- *Require credible loss recognition*. Uncertainty about the valuation of troubled assets continues to raise concerns about the viability of financial institutions, including those that have received government support. Policymakers should require that assets be valued conservatively and consistently across institutions. While the lack of liquidity and their complex structure make it difficult to value many impaired assets precisely, a range can be established.[4] Market mechanisms could also be used to establish prices as a means to remove troubled assets in a transparent manner.

- *Provide necessary public support for resolution of distressed assets and recapitalization*. An approach that has a proven track record involves removing impaired assets from financial sector balance sheets, moving them into publicly-owned asset management companies. Viable banks should then be quickly recapitalized, with public money if necessary. Insolvent institutions (with insufficient cash flows) should be closed, merged, or temporarily placed in public ownership until private sector solutions can be developed.[5]

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[4] Recent proposals provided by the International Accounting Standards Board (IASB) and the Basel Committee regarding disclosure and fair value practices offer useful guidance in this regard.

[5] While permanent public ownership of core banking institutions would be undesirable from a number of perspectives, there have been numerous instances (for example, Japan, Sweden and the United States), where a period of public ownership has been used to cleanse balance sheets and pave the way to sales back to the private sector.

Box 1. Recent Banking Sector Measures—A Stocktaking[1]

Most countries' principal focus has been on addressing liquidity needs and forestalling widespread panic rather than addressing underlying weaknesses. This approach has been successful in preventing widespread creditor panic, but bank restructuring efforts have thus far responded mainly to market pressures rather than to a full diagnosis of the underlying soundness of institutions. More fundamental and wide-ranging steps appear to be needed.

Some of the key limitations of the policy response to date include:

- *Creditor protection may not be adequate if economic conditions continue to deteriorate*. Following the failure of Lehman Brothers last September, G-20 countries responded with targeted, rather than comprehensive, creditor protection, and such strategies may not be robust to a deepening crisis.
- *Capital injection programs have been ad hoc*. Even as the number of troubled financial institutions rose sharply, national authorities often responded to market pressures for recapitalization without a well-defined set of criteria, diagnosis, or a coherent restructuring or rehabilitation program.
- *Asset management policies are only slowing being put in place*. Institutional arrangements for dealing with bad assets are only just emerging (e.g., the U.S. public-private investment fund and the U.K. asset purchase scheme), and difficult operational issues related to the valuation and disposal of these assets still need to be addressed.

Critical aspects of crisis management frameworks need to be strengthened in the context of a comprehensive and internationally coordinated strategy that does not shrink from government takeovers of nonviable institutions. Such a program would include the following elements:

- A framework for international coordination and cooperation to promote greater consistency on restructuring and recapitalization, as well as on valuing and disposing of toxic assets.
- Quick action to inspect major financial institutions to determine their financial health and remediate as necessary.
- Institutional frameworks for public holdings of banks that ensure that banks that have been recapitalized operate on sound business principles and without undue government influence.
- An effective communications strategy explaining the overall approach and objectives.

Many G-20 members have yet to feel the full brunt of the crisis and should take immediate action to contain further deterioration. Even where banking sectors still appear resilient, the deepening global financial crisis is likely to imply greater stress, and early action to assess vulnerabilities based on realistic assessments of asset valuations and to put in place a well-defined and clearly communicated strategy for dealing with weak institutions is critical.

Overview of Policy Measures by G-20 plus Spain and Netherlands
As of February 24, 2009

	Containment			Resolution	
	Establish, Increase or Expand Deposit Insurance	Guarantees of Wholesale Borrowing	Sternghtened Liquidity Measures	Re-Capitalization Plans Established 1/	Asset Purchase Plans
Argentina			X		
Australia	X	X	X		X
Brazil			X		X
Canada		X	X		X
China			X		
France		X	X	X	
Germany	X	X	X	X	X
India			X		
Indonesia	X		X		
Italy		X	X	X	
Japan			X	X	X
Mexico		X	X		
Netherlands	X	X	X	X	
Russia	X	X	X	X	X
Saudi Arabia	X	X	X		
South Africa			X		
Spain	X	X	X		X
South Korea		X	X	X	X
Turkey			X		
United Kingdom	X	X	X	X	X
United States	X	X	X	X	X

Source: Various government announcements and information on official websites.

1/ All countries have indicated that the capital injections will assist sound banks except France, which has indicated that its plan will assist only troubled banks. Italy has indicated that both sound and troubled banks will be covered.

[1] This box summarizes the companion paper "Stocktaking of the G-20 Responses to the Global Banking Crisis."

- *Ensure greater international cooperation.* Disparities in the degree of support afforded to financial institutions in different countries could create additional strains and distortions. It is critical to provide better clarity and consistency of rules applied to valuation of troubled assets, guarantees, and recapitalization in order to avoid unintended consequences and competitive distortions—whereby domestic institutions or local credit provision are favored to the detriment of others.

- *Be mindful of transition problems and the future contours of the financial system.* Current actions should be consistent with a long-term vision of a healthy, efficient, and dynamic financial system. Achieving these objectives requires steps to limit moral hazard and exit strategies from large-scale public interventions, including to ensure a smooth transition back to private intermediation in dislocated markets. Lower leverage and a smaller financial sector seem inevitable, and current actions should not impede necessary restructuring of the system as a whole. Higher regulatory capital ratios—consistent with the systemic risks posed by institutions—should be introduced gradually to avoid aggravating adverse feedbacks with the real economy.

16. **The recently announced U.S. financial stability plan contains elements of a good strategy, but more specifics will be needed to calm frayed market sentiment.**

- *The plan is broad in scope and addresses a number of critical issues missing from previous proposals*. The notable positive steps of the plan include a capital injection program for banks (following stress tests to assess the size of the capital hole) to help absorb losses; the expansion of the Fed's TALF program (to support consumer lending); a program to limit preventable foreclosures by encouraging loan modifications; and a troubled asset purchase plan (involving private buyers in partnership with the public sector).

- *However, essential details are still lacking, which has limited its impact on market conditions so far.* Critical details concerning the valuation of distressed assets remain unclear. The plan also does not address how severely undercapitalized or insolvent banks will be resolved, or clarify the role of the vehicle that will hold the government's preferred shares. Greater clarity on all these issues will be critical to ensure the plan's effectiveness and to alleviate financial market strains.

- *The housing sector needs further support.* The Homeowner Affordability and Stability Plan is a step in the right direction. However, the plan focuses largely on improving affordability through lower interest payments, with little emphasis on addressing negative equity. This omission, if perceived as serious by the markets, could reduce the effectiveness of the current plan, as it may engender expectations of another round of incentives and cause parties to troubled mortgages to hold out in anticipation of a better deal.

17. **In the context of rapidly rising financing constraints, steps to ensure adequate provision of liquidity would help to reduce risks that a shortfall of foreign capital generates solvency problems.** Countries with reserve buffers should continue to provide foreign currency liquidity to prevent shortages from affecting firms' ability to operate, but such buffers are rapidly dissipating. Advanced economy central banks could increase access by emerging economies counterparts to liquidity support, including through swap facilities and lines of credit for trade financing. Temporary financing from the Fund, even if only on a precautionary basis, would be helpful to reassure markets.

18. **Emerging economies should prepare, on a contingent basis, plans to address the growing risks of large-scale corporate failures.** Comprehensive mechanisms are needed to reduce the risk of systemic solvency problems, along with a strengthening of corporate work-out frameworks. Countries should assess their preparedness for dealing with possible bank runs, including whether existing mechanisms (such as deposit insurance schemes and banking resolution mechanisms) are sufficient or if they need to be bolstered. Similarly, legal frameworks for corporate insolvencies may need to be put in place or modified to promote efficient and predictable resolution of mounting debt problems in the corporate sector.

B. Macroeconomic Policies

Alongside concerted efforts to stabilize the financial system, macroeconomic policies to support demand are needed to help break adverse feedback loops between the financial sector and real economy and to avoid a deep and prolonged global recession.

19. **Major central banks have eased policy rates, including to stem the adverse feedback loop between the real and financial sectors, and should communicate their intention to keep rates until sustained recovery takes hold.**

- *The Fed has been particularly aggressive in cutting policy rates*, lowering them by a cumulative 500 basis points since the beginning of the crisis to close to the zero bound (Figure 3). Other major central banks, including the ECB and the Bank of England, have also cut rates, albeit at a more measured pace than the Fed in the early stages of the crisis, but at a greater pace more recently—policy rates are at historic lows in both the euro area and the United Kingdom.

- *Some central banks, notably the ECB, have some room for further cuts*, *which they should use*. Others—especially the Fed and the Bank of Japan—have already cut policy rates to very low levels.

- *Moreover, central banks should clearly communicate their intent to keep policy rates low until a recovery firmly takes hold*. This would be critical to guide expectations of future rates and inflation, and reduce deflation risks. The Fed's latest initiative to release longer-term forecasts of inflation is a helpful step in this direction.

20. **Policy rate reductions have, however, had limited impact on financial conditions.**

- *Real policy rates have been reduced to well below pre-crisis levels*, *but the declines have been limited by falling inflation* (Figure 3). Moreover, with financial market turmoil weakening the monetary transmission mechanism, reductions in policy rates have not translated into lower borrowing rates, as banks have tightened lending standards.

- *Financial conditions have tightened overall.* Many traditional funding sources for financial institutions and markets have disappeared, and banks and other lenders have found their ability to securitize credit greatly constrained. Borrowing rates, particularly for high-yield corporates, remain at elevated levels.

21. **With credit intermediation impaired, central banks will need to increasingly rely on unconventional measures to stimulate economic activity.**

- *Unconventional measures should be directed at unlocking key credit markets.* Direct central bank support of funding markets—such as for commercial paper and asset-backed securities—or extending loans directly to the non-financial sector would be considerably more effective at alleviating credit constraints than purchasing highly-liquid Treasuries (given the portfolio shift toward less risky assets). Reflecting direct intervention in credit market, balance sheets of major central banks have expanded significantly since the beginning of the crisis—in particular, the Fed's balance sheet has expanded by around 250 percent since the beginning of the crisis.

- *Direct intervention by central banks in credit markets is having an impact*. Fed actions in the commercial paper and residential mortgage markets appear to be having their desired impact to narrow elevated spreads. Similarly, steps taken by the Bank of Japan to purchase high-rated commercial paper and corporate bonds have helped to narrow spreads.

- *The use of unconventional monetary policy tools will need to be accompanied by a clear communication of the objectives and criteria of success of interventions*. That said, even with such actions, the effectiveness of monetary policy could be curtailed if financial conditions remain disrupted and uncertainty remains high.

22. **In emerging economies, monetary policy has to balance the need to support demand against the risk of accentuating capital outflows and undermining financial stability.** While slumping demand justifies monetary easing, increasing risks to external stability in the context of rising external financial constraints argues for a halt in rate cuts and even for a tightening of monetary policy in some cases. Similarly, countries with pegged exchange rate regimes may have little scope for interest rate cuts to the extent that the crisis has put sustained pressure on their exchange rates. Some of these countries may need to increase the flexibility of their exchange rate regime, while ensuring the maintenance of a credible anchor for monetary policy.

Policy Rates
(Basis point move; Sept. 30 to Mar. 3)

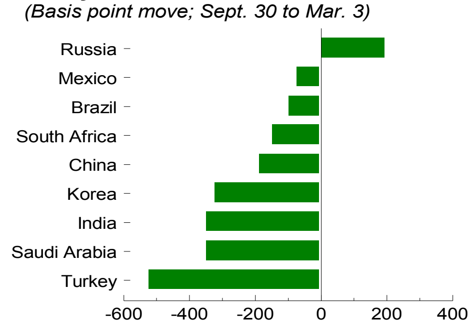
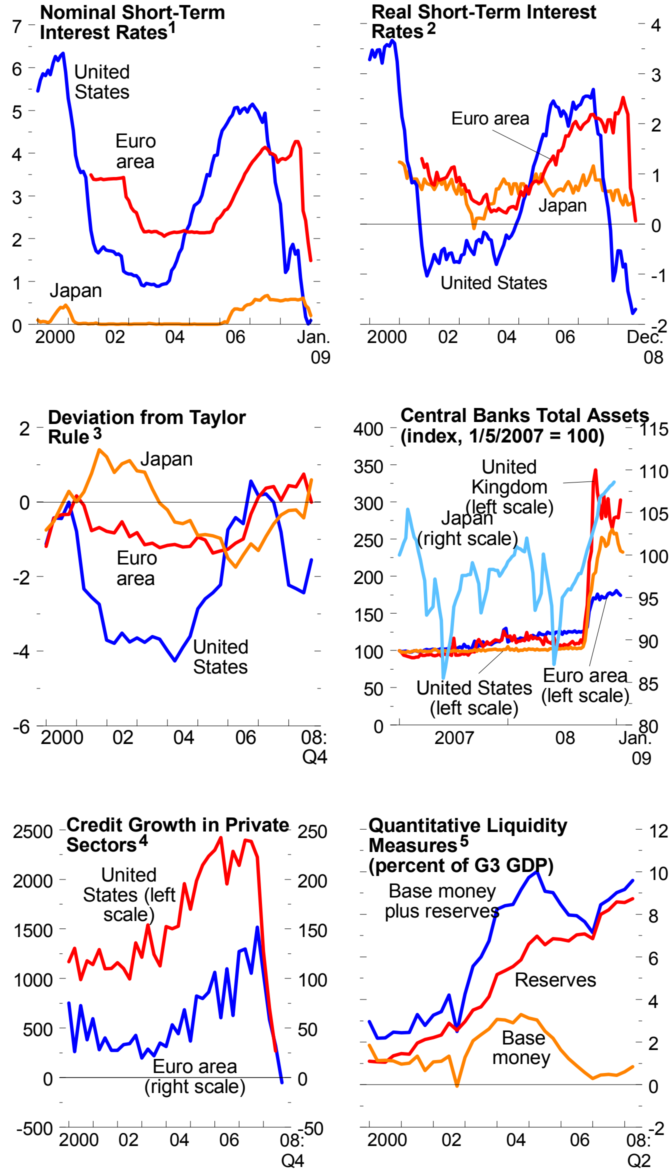


Figure 3. Measures of Monetary Policy and Liquidity in Selected Advanced Economies

(Interest rates in percent unless otherwise noted)

Policy rates have been eased aggresively by major advanced economy centrals banks, but the ECB still has room to cut rates. Major central banks have increasingly acted to provide direct support to credit markets, reflected in the rapid expansion of their balance sheets. Credit growth has collapsed.



Sources: Bloomberg Financial Markets; Eurostat; Haver Analytics; Merrill Lynch; OECD *Economic Outlook*; and IMF staff calculations.

1 Three-month treasury bills.

2 Relative to core inflation.

3 The Taylor rate depends on (1) the neutral real rate of interest, which in turn is a function of potential output growth, (2) the deviation of expected consumer price inflation from the inflation target, and (3) the output gap. Expected inflation is derived from one-year ahead consensus forecasts.

4 Quarter-over-quarter changes; in billions of local currency.

5 Change over three years for euro area, Japan, and United States (G3), denominated in U.S. dollars.

23. **With constraints on the effectiveness of monetary policy, fiscal policy must play a central role in supporting demand, while remaining consistent with medium-term sustainability.**

- Most G-20 advanced and emerging countries—including the United States, China, Germany, India, Russia, and Saudi Arabia—are providing large stimulus packages. While the overall stimulus being provided by G-20 countries is sizeable, it falls well short of the 2 percent of GDP recommended by the Fund, especially in 2010. However, given the rapid slowdown in global activity, stimulus will need to be sustained in 2010.

- In order to increase the effectiveness of fiscal expansion and minimize cross-border leakages, policy efforts should apply broadly across those advanced and emerging economies where disciplined policies in the past and low current debt provide sufficient policy space, although it is recognized that continuing deterioration in economic prospects is effectively using up space in some of countries.

24. **The available fiscal space can be increased through appropriate policy design.** Ideally, a larger fiscal expansion in times of economic crisis can be accommodated if policy design increases the likelihood of a fiscal tightening once conditions improve, so as to ensure long-term fiscal solvency. In this respect, Fund staffs recommend a four-pillar strategy to ensure fiscal solvency. Stimulus packages should not have permanent effects on deficits; medium-term fiscal frameworks should clarify government's commitment to fiscal correction once economic conditions improve; structural reforms should be implemented to enhance growth, and thus, medium-term revenue prospects; and countries facing demographic pressures should firmly commit to clear strategies for health and pension reforms.

25. **The composition of the fiscal stimulus is as critical as its size.** The key is to ensure that fiscal initiatives boost activity over the relevant time frame, while seeking lasting benefits to productive capacity. The length and severity of the downturn justifies greater weight on public investment in projects that typically have long lags but bring substantial longer-term benefits. Attention should be paid to alleviate the pro-cyclicality of rules constraining sub-national entities, including through transfers from the central government and to supporting social and labor market support programs to reduce the impact of a prolonged downturn.

26. **Priorities vary considerably across emerging economies with regard to the fiscal stance.** Emerging economies have more room for countercyclical fiscal support than in the past, but this room is being used up in the context of a tightening global financing environment. Countries with relatively sound macroeconomic fundamentals, but faced with deteriorating economic prospects, have greater scope than in the past to let automatic stabilizers work and even to use discretionary measures to support demand. In countries facing crisis conditions or significant external funding constraints, however, fiscal policy may need to be tightened alongside monetary policy as revenues decline and lack of external funding constrains fiscal spending.

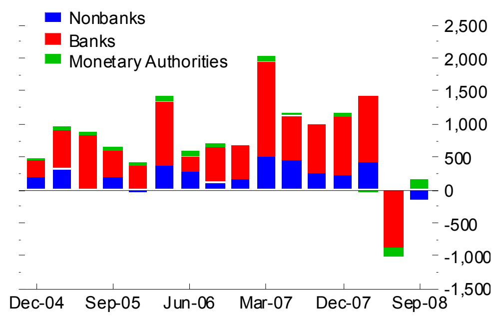
III. External Financing Risks and Banking Sector Vulnerabilities in Emerging Economies

Amidst global deleveraging, many emerging economies are likely to face prolonged capital account pressures. Working capital credit and cross-border lending are being cut back, raising funding risks—particularly, in countries where subsidiaries of foreign banks comprise a large share of domestic intermediation. Strains in finance-constrained firms and undercapitalized banks in several emerging economies are likely to feed off each other, raising the risks of severe financial and economic dislocations. This could weigh heavily on growth and, in some cases, trigger external crises if not addressed.

A. Capital Flows and External Financing Pressures

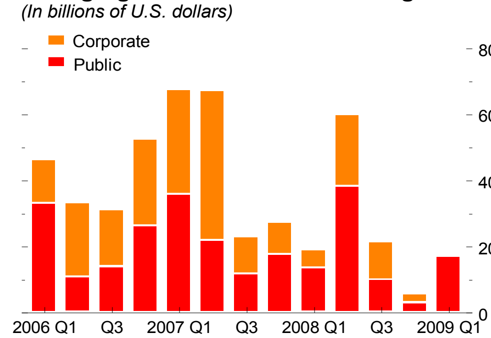
27. **Global deleveraging is sharply reducing the demand for emerging market assets** (Box 2). Escalating bank losses in advanced economies are pushing banks to contract balance sheets and curtail credit flows to hedge funds and other emerging market investors. Moreover, rising home bias is substantially scaling back cross-border bank flows and market-based financing from hedge funds, with the emerging market investor base now being largely confined to dedicated long-only investors.

Changes in Cross Border Bank Liabilities
(In billions of U.S. dollars; Exchange rate adjusted)

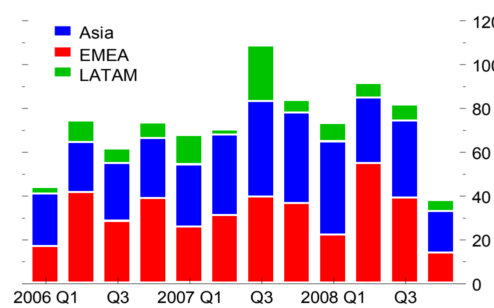


- *Cross-border lending is contracting, which threatens to starve emerging market corporates and banks of financing*. The retrenchment from cross-border exposures is occurring more rapidly than the overall deleveraging process. Cross-border assets as a share of bank balance sheets declined for the second successive quarter in the third quarter of 2008, while global syndicated loan volumes were cut in half in the fourth quarter. The factors generally pushing banks to retrench from cross-border positions, such as swap market dislocations and high costs of foreign currency liquidity, were exacerbated in the case of emerging markets.

Emerging Markets Bond Financing
(In billions of U.S. dollars)



Syndicated Lending to Emerging Markets
(In billions of U.S. dollars)



- *Moreover, recent bank support or rescue programs in advanced economies may be accelerating the curtailment of cross-border bank flows.* In particular, banks receiving public support may feel pressure to expand domestic lending at the expense of their foreign operations. This could trigger serious difficulties in emerging economies with banking and corporate sector vulnerabilities. Moreover, emerging market sovereign issuers will also likely face increased competition from advanced countries' rising issuances of sovereign and sovereign-guaranteed debt.

- *Hedge funds and institutional investors, including pension and mutual funds, continue to exit emerging markets on account of severely reduced financing and heightened redemptions pressures*. Many who still hold large exposures in relatively illiquid assets are seeking to reduce their exposures as market conditions permit.[6] Cross-over funds—retail funds invested in a wide range of assets—have largely reduced emerging market exposures and are unlikely to consider re-establishing positions due to the outlook for emerging economies and higher comparable returns available on mature market credit assets. Emerging bond markets have already come under severe strain, with deteriorating conditions in both primary and secondary segments. Following a virtual shutdown of emerging market sovereign and corporate bond financing in the final quarter of last year, some borrowers have been able to obtain funding more recently, albeit at substantially higher spreads.

28. **Against this backdrop, capital flows to emerging markets are likely to be scaled back sharply in the period ahead.** The significantly weaker external financing environment could produce an extended duration of financial distress compared to past episodes (with possibly large output costs) for many emerging economies (Box 3).

- *Bank flows are likely to be severely retrenched, as the credit crunch deepens and mature market banks continue to delever*. Staff analysis suggests that the credit crunch in advanced economies could lead to "sudden stops" in cross-border bank flows to emerging economies. Outflows of 'other investment' (composed of trade credits and loans) amounting to around 5 percent of GDP were experienced during the Asian and Latin American debt crises.

29. **Global deleveraging also clouds the outlook for portfolio and FDI flows to emerging economies.** Significant portfolio outflows in 2009 and 2010 are likely, given continued pressures for leveraged investors to shed assets, risks to dedicated investors of further redemption pressures, and crowding out from government-guaranteed mature market bonds. Foreign direct investment is set to slow significantly, given the fall in private equity assets, the lack of credit available to finance acquisitions, and sharply deteriorating growth prospects in emerging markets. And the risks are firmly to the downside. The protracted nature of the current crisis, suggests the outflows could be larger and more persistent than in previous 'sudden stop' episodes.

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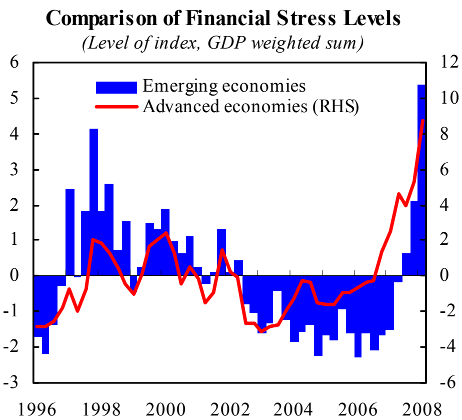
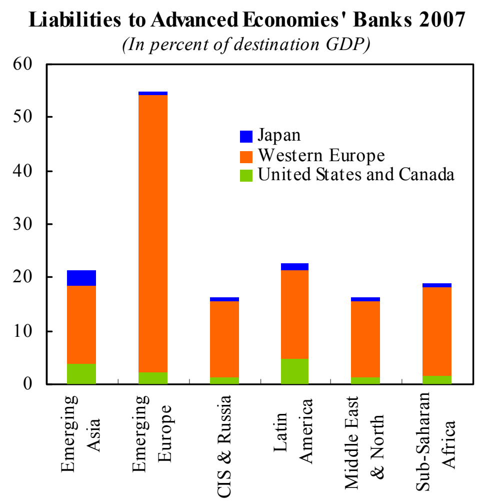
[6] Hedge funds that have restricted redemptions on account of large illiquid holdings, particularly in emerging market assets, are in many cases required by the terms of these restrictions to reduce exposure.

Box 2. The Role of Financial Linkages in the Transmission of Financial Stress[1]

In the past, financial crises in advanced economies have passed through strongly and rapidly to emerging economies. This is evidenced by the relation between a newly developed financial stress index for emerging economies to an index for stress in advanced economies.[2] In line with this pattern, the unprecedented spike in financial stress in advanced economies in the third quarter of 2008 had a major effect on emerging economies. In the fourth quarter, financial stress was elevated in all segments of financial systems in all emerging regions, and on average exceeded levels seen during the Asian crisis (see Figure, left panel).





The depth of financial linkages affects the pass-through of stress. On average, stress in emerging economies moves almost one-for-one with stress in advanced economies, but there is significant cross-country variation. An empirical analysis of stress comovement shows that stronger financial (i.e., banking, portfolio, and FDI) linkages are associated with a higher stress pass-through from advanced to emerging economies. During the most recent crisis, *bank lending* linkages have been the main driver of stress transmission.

The fact that stress in advanced economies is rooted in banking crises and that bank lending is a major part of financial linkages suggests that the decline in capital flows to emerging economies will be protracted. Western European banks have dominated bank lending flows to emerging economies. By end 2007, their assets in emerging economies reached 10 percent of advanced economy GDP compared to a combined 2.5 percent of GDP by Canada, Japan and the United States. The largest recipient economies were in emerging Europe (right panel). Evidence from past episodes of systemic banking stress in advanced economies (Latin American debt crisis of the early 1980s and the Japanese banking crisis of the 1990s) implies that the decline in capital flows may be sizeable and drawn out. Given their large exposure, emerging European economies might be heavily affected, although EU membership offers some protection.

Reducing country-specific vulnerabilities cannot insulate emerging economies from the transmission of a major financial shock in advanced economies, but can dampen the impact on the real economy and help the recovery. The analysis finds that during calm periods in advanced economies, emerging economies obtain some protection against financial stress from higher current account and fiscal balances. However, higher balances cannot prevent stress transmission during periods of widespread financial stress in advanced economies. But they can help dampen the effects of stress on the real economy (e.g., by using reserves to buffer the effects from a drop in capital inflows) and contribute to the recovery by reestablishing financial stability and capital inflows.

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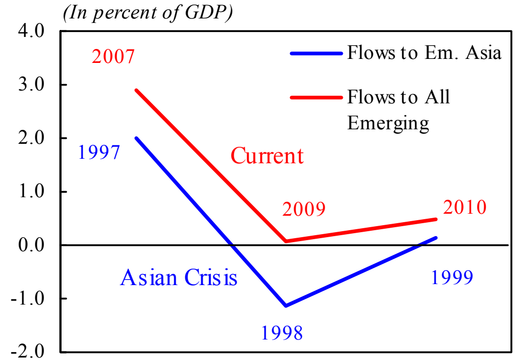
[1] Based on the forthcoming World Economic Outlook chapter “How Linkages Fuel the Fire: The Transmission of Stress from Advanced to Emerging Economies” to be released in April 2009.
[2] The index for emerging economies captures developments on equity markets, exchange markets, and the banking sector. Positive values of the index indicate heightened financial stress (e.g., decline in equity market returns, high equity market volatility, exchange rate depreciations, foreign reserve losses). For advanced economies, the October 2008 World Economic Outlook introduced a similar monthly, market-based index.

Box 3. Capital Account Crises in Emerging Economies, Then and Now

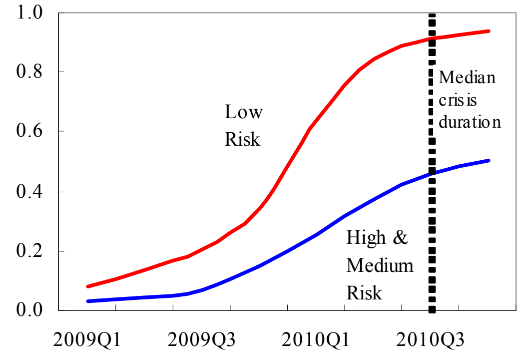
Capital account crises in the past have led to large outflows and output costs. Sizeable outflows on the order of 5 percent of GDP were registered in the late 1990's by several Southeast Asian countries, and in the early 1980's by Latin American countries, undercutting domestic credit provision. The wider the reach of the crisis, the more likely pessimistic expectations in the private sector became entrenched, thereby prolonging the crisis and its costs. Indeed, longer crises (lasting more than year) have been associated with increasingly worse outcomes in terms of real output losses.

The current period of financial distress in emerging economies is likely to be prolonged compared to past episodes. Recent analysis of the duration and probability of exiting intense market pressures suggests significant challenges for emerging economies under current circumstances. [1] Differences across regions aside, the severity of the current crisis is comparable to previous regional crises but on a much wider global scale than seen in past episodes; especially vulnerable are those economies with weaker underlying economic and policy fundamentals, which are likely to face pressures that could extend beyond the median duration from past crises (see Figures).

Capital Flows to Emerging Economies
(In percent of GDP)



Probability of Exiting from Distressed State and Crisis Duration



Specifically, countries with large external imbalances face the most serious challenges. The analysis of the duration of external funding pressures suggests extended problems in eastern Europe, reflecting the region's weak initial position (large current account deficits and high levels of external debt). Outside of eastern Europe, the analysis suggests that emerging markets are projected to face shorter funding pressures given their stronger initial external positions. Pressures are less likely to linger in Latin America and Asia (some may exit in a year or less), although the length depends heavily on global financial conditions.

The probability of exiting from distressed conditions is highly sensitive to countries' initial external positions, the global financial environment, and external assistance. The analysis highlights the importance of consistent prudent macroeconomic policies, which determine initial conditions at a time of financial distress. The strong policy response is also important for shortening crisis duration but strong market pressures during crises severely limit actual policy options. In all, crisis resolution efforts should also promptly focus on restoring investor confidence and improving global liquidity conditions, both of which are not yet in sight. This, in turn, depends on a quick resolution of the crisis in advanced economies. Finally, the analysis suggests that large (and front-loaded) external financing packages are likely to be critical for shortening crisis duration.

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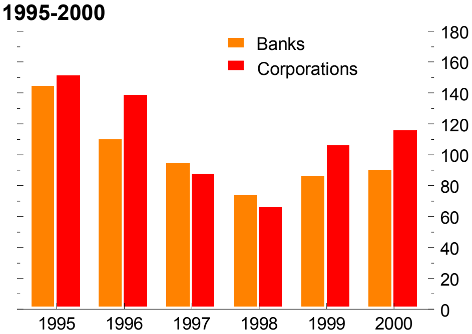
[1] The methodology is based on previous work on capital account crises by Fund staff. For details see Mecagni, et al "The Duration of Capital Account Crises—An Empirical Analysis," IMF Working Paper No. 07/258.

- *Emerging market sovereigns would suffer significant spillovers from corporate and banking sector dislocations, and financing costs are likely to remain high over the next several years.* Staff analysis suggests that emerging market sovereign bond spreads are set to rise further, amid continued stress in core financial markets and deteriorating emerging market fundamentals. The aggregate EMBIG spread is projected to reach 900 basis points at end-2009, and decline only modestly in the following two years. Emerging market corporate debt spreads are likely to remain well above sovereign spreads.

30. **Emerging market corporates that accessed external funds (through bonds and loans) will need to turn to domestic markets.** Rising risk aversion would suggest that countries in crisis or near-crisis conditions will face serious difficulties to roll over maturing obligations. While corporate rollover rates in emerging Europe in 2009 are generally lower than elsewhere, they are among the most vulnerable to disruption. For many other emerging economies, including in Latin America and Asia, the availability of external finance for corporates will likely be severely limited. During the Asian crisis in the late 1990s, for example, rollover rates of short-term external debt fell to about half their previous levels.[7]

Rollover rates for short-term external debt Asian crisis countries (Korea, Philippines, Thailand), 1995-2000



- *In most countries, corporates will be forced to primarily access domestic banks, since local bond markets are too small to provide a sufficient substitute*. However, emerging market banks are also faced with reduced access to external funding, higher costs of capital, and deteriorating domestic credit conditions that will weaken their balance sheets.
- *Some governments may called on to support firms that face high rollover needs but are not able to raise financing* (e.g., Korea and Russia), or to step up measures to shore up their banking sectors, particularly in several emerging European countries.

B. Banking Sector Vulnerabilities

31. **Corporate and banking sector vulnerabilities are becoming mutually reinforcing in several emerging economies**. Relatively high roll-over needs in the year ahead could rise further as some debt claims are accelerated due to breaches in original covenants. With falling commodity prices and growth slowing sharply, defaults in the corporate sector are widely expected to rise, which would further strain bank balance sheets. In this environment,

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[7] Rollover rates for banks and corporations on short-term external debt fell sharply during the crisis in Korea, Philippines and Thailand; for banks, rollover rates dropped from 150 percent (on average) during the five years prior to the crisis to a low of 74 percent in 1998.; and for non-banks, the fall in rollover rates was from 120 percent to 66 percent in 1998.

many banks are already curtailing credit growth, exacerbating the financing constraints for their corporates.

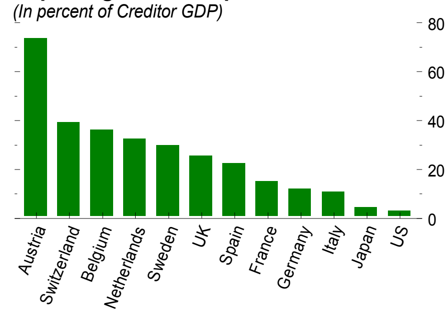
32. **Emerging market banks, especially in Europe and the CIS, may need to be recapitalized.** With sharply weakening economic activity, a higher cost of capital, and deteriorating asset portfolios, many emerging market countries will need to address banking sector vulnerabilities. Based on a sample of asset portfolios of some 750 banks in emerging economies and the likely losses accruing on both securities and loans over the next two years—about $750 billion—***preliminary analysis*** suggests a capital shortfall of about $250 billion, after accounting for retained earnings and use of capital cushions. The bulk of the shortfall lies in the CIS and Turkey.

- While mature market parent banks may have enough capital to recapitalize their subsidiaries in one or two emerging market countries, they are unlikely to have enough capital to recapitalize all of their subsidiaries. Agreements between individual emerging European countries and their parent banks that protect subsidiaries in a particular country may thus be detrimental for other countries in the region.

33. **Among different regions, Central and Eastern Europe are the most vulnerable to the decline in cross-border lending between banks.** Parents of many subsidiary banks may not be able to roll-over all of the maturing obligations coming due this year (estimated to be around $360 billion). This inability stems from their own acute funding pressures and the scarcity of foreign exchange funding for local banks (cross currency swap spreads continue to indicate severe borrowing constraints in foreign currency). Foreign banks are also concerned about pressures on their own ratings—which will increase their cost of funding—as their losses mount in emerging Europe, possibly requiring further capital injections to support balance sheets.[8]

34. **The vulnerabilities of banks with substantial exposures to Central and Eastern Europe are raising perceptions of sovereign risk in advanced economies.** Many banks' exposures are high relative to their home country GDP. Austrian banks' exposures, for example, amount to about 75 percent of Austria's GDP. Other countries with relatively high exposures to emerging Europe include Switzerland, Belgium, the Netherlands, and Sweden. Sovereign spreads of all these countries have widened substantially in recent weeks as funding pressures on

Claims on Emerging Markets by BIS Reporting Banks, September 2008
(In percent of Creditor GDP)



[8] Some western European economies, such as Austria have already announced liquidity support packages for their banks facing deteriorating asset quality in eastern Europe, but this has not addressed longer term funding concerns. Other countries, such as Greece for example, appear to have sought to support *domestic* credit growth of local banks and this could heighten the risk of a retrenchment in cross-border financing for countries such as Bulgaria and Romania—where Greek banks account for more than 25 percent of total assets.

eastern Europe banking systems have intensified. In addition, to the extent that Western European creditor banks also have exposure to other emerging economies, including in Asia, there is a risk that such exposures will be drawn down should problems in Eastern Europe intensify further.

35. **In Latin America, bank balance sheets are also beginning to weaken**. This is due to the combined effects of market losses and repatriation of capital by subsidiaries of foreign banks. Further credit deterioration is expected to generate significant losses going forward. As a first indication of this risk, NPLs have increased in recent months. Also, domestic capital markets have largely closed, leaving corporations that had already lost access to international capital markets at the outset of the crisis unable to roll over their debt. As foreign credit lines and deposit growth have declined, banks have also curtailed credit growth, albeit from very high levels. In light of the importance of foreign banks in Latin America and the Caribbean, the support of parent banks will be critical for credit markets.

36. **In Asia, banks have been broadly less reliant on external funding, but the funding costs have risen substantially**. Combined with the deterioration in earnings and asset quality, bank lending activity has declined markedly. For some banks, additional capital may be needed. Banks that have pursued an aggressive credit growth strategy against weak underwriting standards will be most vulnerable along with those exposed to (i) wholesale funding; (ii) highly leveraged borrowers; and (iii) low capitalization to absorb unforeseen shocks. Unlike banks, many large corporates borrowed extensively from external markets, but these firms are increasingly turning to domestic banks to replace shortfalls in external finance. Small and medium-sized enterprises, however, face a more difficult task given the propensity of domestic banks to favor larger, credit-worthy corporate borrowers under current conditions.

C. How Have Emerging Economies Responded?

37. **Policy responses across emerging economies have varied, depending largely on the extent of domestic financial strains and the availability of external reserves.** Overall, policy measures have included: (i) extending deposit insurance and guarantees on other banks liabilities; (ii) capital injections into banks (and, in some cases, nationalization of problem institutions); (iii) provision of foreign currency liquidity to domestic banking systems; (iv) tighter rules on foreign currency lending to domestic residents; and (v) direct and indirect support for corporate borrowers, especially those facing difficulties accessing foreign exchange for external debt repayment.

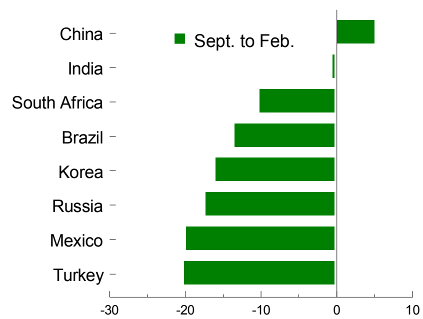
38. **Many emerging economies have supported their banking systems through liquidity support and deposit guarantees.** These measures have been necessary in countries, such as Korea, where some banks have been reliant on wholesale funding to support domestic lending. In Korea, the government has also guaranteed domestic banks' external borrowing to encourage foreign lenders to maintain funding to banks and thereby reduce excessive recourse to the country's foreign exchange reserves. Liquidity support for domestic banks—including through interest rate reductions—has been used extensively in

countries that are not facing severe external financing constraints. However, increases in liquidity have lead to capital flight in a few countries (Russia, Indonesia, Ukraine, among others) and the authorities have imposed restrictions on foreign currency lending of domestic banks (for example, Ukraine).

39. **Countries with adequate reserves have been able to supply foreign-currency liquidity to domestic agents, thus far, but fear of capital flight is a concern**. In many countries, external debt of domestic banks (Russia, Korea, Kazakhstan) and domestic corporates (notably, Brazil, Korea, India, and Indonesia) has been a key factor leading to exchange market pressures. In Russia, the problem was accentuated by a policy-induced speculative attack on the ruble, in the context of the gradual and predictable depreciation combined with lax monetary policy. While many have used foreign exchange reserves to alleviate these pressures—effectively supplying dollar liquidity to banks and, indirectly, to non banks—others have been constrained by low reserves. However, even in countries that have used reserves, exchange rates have continued to depreciate as their economies weaken and the outlook deteriorates further.

40. **Many emerging economies have eased monetary policy, but others have raised rates due to intensified exchange rate pressures.** Most countries in Asia have cut rates aggressively because their high reserves and low external debt levels provide buffers to possible external funding pressures. Similarly, in Latin America, the major economies (Brazil and Chile) have been able to ease policies notwithstanding currency weakness. By contrast, the policy landscape in eastern Europe is more mixed. Countries that have significant currency mismatches on domestic balance sheets and need to maintain access to external capital have significantly less room to ease domestic liquidity conditions. Some have tightened policy rates to support the currency in the face of speculative pressures.

Real Effective Exchange Rate Movement
(Percent move; per local currency)



41. **As the crisis prolongs, an increasing number of emerging economies will face painful adjustments**. Reduced capital flows, inadequate or diminishing external reserves, and limited policy space will increasingly narrow the policy options available to many emerging economies suffering protracted economic and financial stress. Alongside tighter external financing constraints, weaker medium-term growth prospects and the lack of foreign investor confidence will likely prompt some governments to tighten fiscal and monetary policies to help forestall more disorderly adjustment scenarios. Official external assistance, however, should be able to smooth temporary disruptions in financing flows, as well as helping avoid a more abrupt adjustment toward lower levels of domestic spending if current conditions extend into the medium term.

IV. Assessing Fiscal Policy in the Crisis[9]

42. **Discretionary fiscal stimulus is a critical component of most G-20 countries' macroeconomic policy packages aimed at boosting demand** (see Box 4 for a definition of fiscal stimulus and related terms used in this section). In most countries, discretionary stimulus has so far focused on 2009, with the 2010 amounts generally representing phased implementation of spending programs initiated in 2009 and the carryover of tax measures. For the G-20 as a whole, the fiscal stimulus would amount to 1.8 percent of GDP (approximately $780 billion) in 2009 and 1.3 percent of GDP (approximately $590 billion) in 2010 (Table 2; see Appendix, Table 1 for a breakdown across G-20 countries). As a result of this decline, there would be a negative discretionary impulse between 2009 and 2010 on the order of ½ percent of GDP, based on current plans.

Table 2. G-20 Countries: Discretionary Measures, 2008-10 1/
(In percent of GDP, relative to 2007 baseline)

	2008	2009	2010
G-20 PPP-GDP weighted average	0.5	1.8	1.3
Advanced countries	0.6	1.6	1.2
of which			
US	1.1	2.0	1.8
EU G-20	0.1	1.0	0.8
Japan	0.4	1.4	0.4
Emerging and Developing G-20	0.4	2.0	1.4
of which			
China	0.4	3.2	2.7
G-20 discretionary impulse 2/	0.5	1.2	-0.5

Source: IMF staff estimates.

1/ Figures reflect the budgetary cost of crisis-related discretionary measures in each year compared to 2007 (baseline), based on measures announced through early March. They do not include (i) "below-the-line" operations that involve acquisition of assets (including financial sector support) or (ii) measures that were already planned for. Some figures represent staff's preliminary analysis.

2/ Change from the previous year.

43. **These estimates incorporate new discretionary measures**. In particular, Australia, China, France, India, Korea, Mexico, Russia, and South Africa will undertake larger measures in 2009 or 2010 compared with information provided at the February G-20 Deputies' meeting.[10] Indonesia's fiscal package is now estimated to be somewhat smaller in 2010, while South Africa's will be reversed next year.[11] Moreover, the final U.S. package was somewhat less than originally estimated by staff and a larger portion of the discretionary stimulus will take place after 2010.[12]

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[9] This section was prepared primarily by the IMF's Fiscal Affairs Department.

[10] Stimulus announcements are being made frequently, and the estimates do not include, for example, measures announced by Italy on March 6, 2009.

[11] See "IMF Note to the Group of Twenty Deputies," http://www.imf.org/external/np/g20/020509.htm.

[12] The headline U.S. package also incorporated tax relief with respect to the alternative minimum tax, a recurrent measure that was already included in staff's baseline forecast.

Box 4. Some Definitions of Fiscal Policy

It is useful to clarify the terms that are used to describe fiscal policy in this note:

- *Discretionary fiscal stimulus* (or measures) is used to refer to new crisis-related fiscal policy actions introduced to support economic activity, This is calculated relative to the (2007) pre-crisis baseline, and captures the contribution of fiscal policy to raising the level of income (or reducing the output gap) in a certain year, with respect to that baseline.

- *Overall increase in the fiscal deficit* with respect to the pre-crisis baseline is used to describe the total contribution of fiscal policy (in both its discretionary and automatic components) to supporting the level of income (and reduce the output gap) in a certain year.

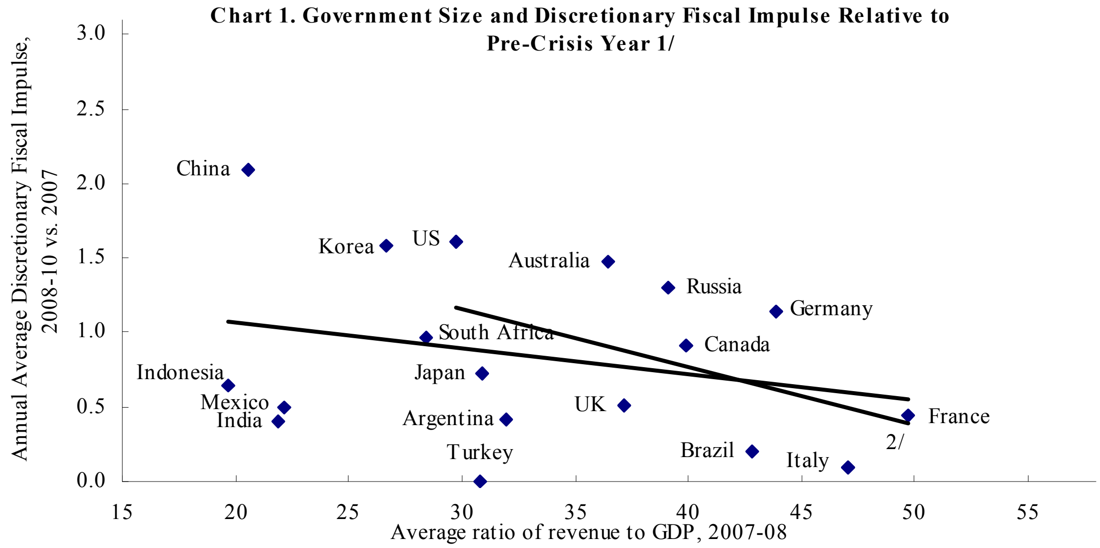
- *Discretionary fiscal impulse:* the change in the discretionary fiscal stimulus.

- *Fiscal expansion:* the change in the overall fiscal deficit.

44. **A key factor that can explain differences in fiscal stimulus across countries is the size of the automatic stabilizers.** Countries in which the automatic stabilizers are larger have less need to rely on discretionary stimulus. Government size is a good proxy for the extent of automatic stabilizers and is smaller in emerging market G-20 countries, as well as in Australia, Canada, Japan, and the United States.[13] Indeed, across the largest G-20 countries, government size has been negatively related to size of the discretionary fiscal impulse to date (Chart 1).[14] This relationship is less evident for the G-20 as a whole, as emerging market countries generally have less space for discretionary stimulus.

[13] See Chapter V of "Companion Paper—The State of Public Finances—Outlook and Medium-Term Policies after the 2008 Crisis" for a discussion of the estimation of the automatic stabilizers. The automatic stabilizers in the U.S. may have weakened in recent years, following changes in tax legislation (see, for example, "Implementing the New Fiscal Policy Activism," by Alan J. Auerbach, January 2009 American Economics Association Meetings).

[14] Automatic stabilizers are not just affected by size, as some countries, have more extensive social benefits (e.g., unemployment insurance, training). Moreover, fiscal rules and institutions, such as balanced-budget rules in the U.S. states, may limit the functioning and size of automatic stabilizers.



1/ Pre-crisis year is 2007 for all countries; excludes Saudi Arabia (revenues are dominated by foreign sales of oil).
2/ Regression line for G-7.

45. **This implies that, in order to compare across countries the role fiscal policy is playing in supporting economic activity, it is better to focus not just on its discretionary component but on the overall fiscal balance**. Table below provides an overall view of the fiscal balances of the G20 during 2007-10, as well as a breakdown of the increase in deficits during the crisis period into discretionary and nondiscretionary components (Table 3; see Appendix, Table 2 for a breakdown across G-20 countries). The table shows that significant differences remain across countries even when looking at the overall balances; leaving aside the oil producers, the largest increases in deficits are expected in the United States and the United Kingdom.[15]

[15] The deficit figure for the U.S. excludes expected losses from financial sector support that will be included above the line in 2009.

Table 3. G-20 Countries: Overall Balance, Automatic Stabilizers and Discretionary Measures

(In percent of GDP)

	Overall Balance				Average Annual Change in 2008-2010 w.r.t. 2007			
	2007	2008	2009	2010	Overall Balance 1/	Automatic Stabilizers	Discretionary Measures	Other 2/
G-20 PPP GDP-weighted average	-1.1	-2.6	-5.9	-6.3	-3.8	-1.4	-1.2	-1.2
Advanced countries	-2.0	-4.1	-6.7	-7.6	-4.1	-1.9	-1.2	-1.1
of which								
US	-2.9	-5.9	-7.7	-8.9	-4.6	-1.6	-1.6	-1.4
EU G-20	-1.6	-2.7	-6.0	-6.9	-3.5	-2.2	-0.6	-0.7
Japan	-3.4	-5.0	-8.1	-8.3	-3.7	-2.2	-0.7	-0.9
Emerging and Developing G-20	0.2	-0.4	-4.6	-4.2	-3.3	-0.8	-1.2	-1.3
of which								
China	0.9	-0.3	-3.6	-3.6	-3.4	-0.6	-2.1	-0.7

Source: Fund staff estimates; see Chapter V of "Companion Paper--The State of Public Finances--Outlook and Medium-Term Policies after the 2008 Crisis" for a discussion of the estimation of the impact of automatic stabilizers.

1/ For the calculations in Chart 2 as well as the calculation of growth impacts from fiscal expansion (see below), the change of the overall balance was adjusted: for Russia and Saudi Arabia, the change in non-oil revenues was used (rather than total revenues); for Saudi Arabia, the change in discretionary measures were used (rather than total expenditures); for the U.S., estimates of losses from financial sector support (5.7 percent of GDP in 2009) were excluded (and are excluded above).

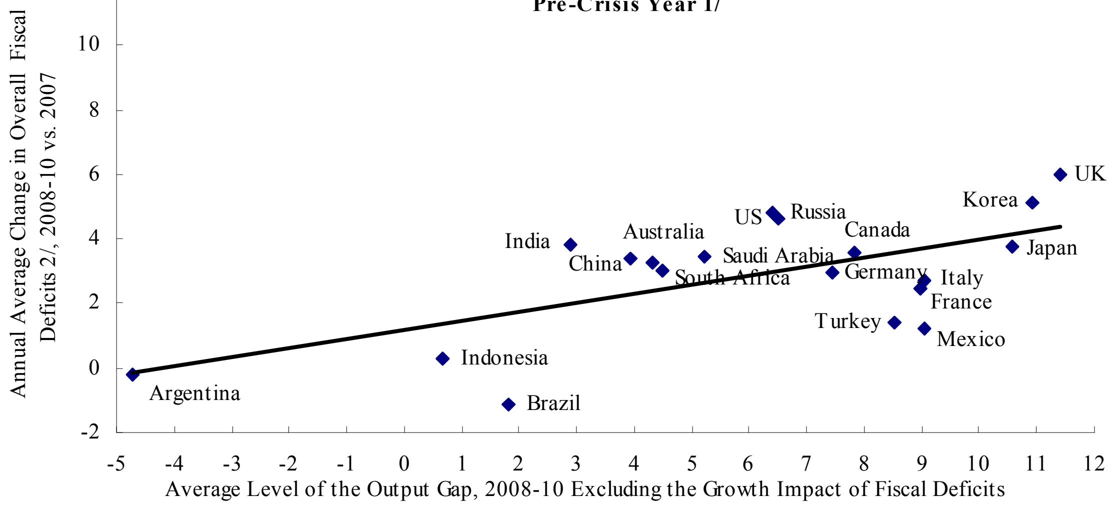
2/ Includes other, non-crisis related discretionary spending or revenue measures (e.g., changes in defense spending), as well as the impact of non-discretionary effects on revenues beyond the normal cycle. These include the revenue impacts of the extraordinary decline in commodity (e.g., Russia, Saudi Arabia) and real estate prices and financial sector profits (estimated to be larger for the U.K. and U.S.). For some countries, "other" is positive, due to assumed compliance with fiscal rules limiting the size of permissible deficits (e.g., Mexico, Brazil). Finally, for other countries, a large value for "other" reflects differences in fiscal coverage, in particular spending measures taken off-budget or by subnational governments (e.g., Canada, India) not captured in estimates of discretionary measures.

46. **Other factors that help explain the difference across countries in the behavior of the overall fiscal balance include:**

- **The size of the output gap**. The magnitude of the overall fiscal support—the discretionary and nondiscretionary components—should be related to the size of the output gap that a country faces in the absence of fiscal support.[16] For example, the rise in output gaps in Korea, Japan, the United Kingdom and the United States have been among the most severe in the G-20, in some cases starting earlier than elsewhere. Indeed, countries that have faced a deeper output deceleration have generally acted to allow fiscal policy to play a more supportive role (Chart 2).

[16] See Chapter V of "Companion Paper—The State of Public Finances—Outlook and Medium-Term Policies after the 2008 Crisis" for a discussion of the estimation of output gaps. In some cases (e.g., China), this involved use of a Hodrick-Prescott filter to compute trend GDP.

Chart 2. Output Gap and Annual Average Change in Fiscal Deficits Relative to Pre-Crisis Year 1/



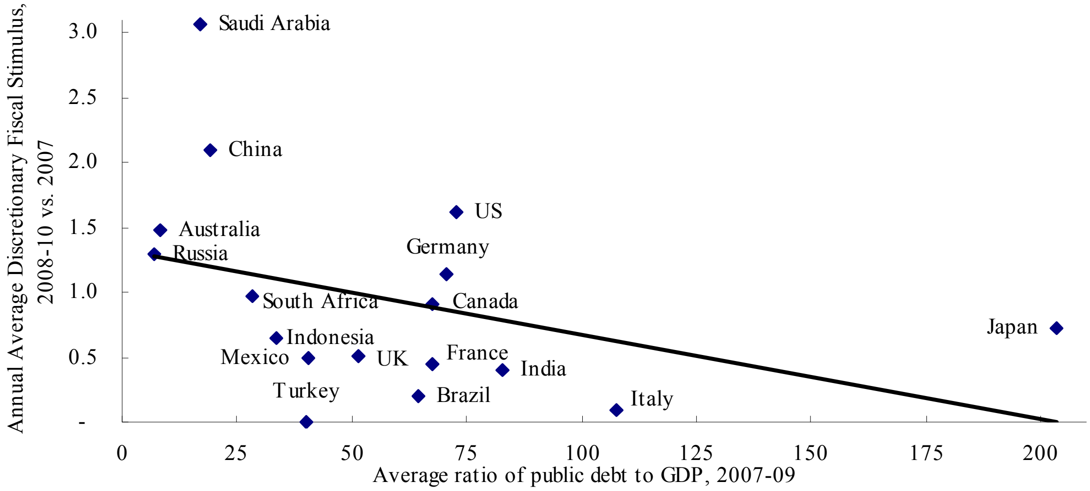
1/ Pre-crisis year is 2007 for all countries. The fiscal multipliers used for calculation of the output gap excluding fiscal expansion are 0.3 on revenue and 1.1 on total spending.
2/ For Russia and Saudi Arabia the change in non-oil revenue in percent of GDP was used and for Saudi Arabia, expenditure change included only discretionary stimulus. For the US, the fiscal balance for 2009 was adjusted to exclude losses from financial sector support (5.7 percent of GDP).

- **Differences in fiscal multipliers**: Country multipliers may vary depending, for example, on the nature of revenue change (loss of income taxes from the financial sector versus tax rebate for credit constrained individuals) or expenditure changes (the presence of more severe infrastructure gaps and bottlenecks in some countries.)

- **Fiscal space**. Some countries entered the crisis with greater space for supportive fiscal policy, including more favorable levels of deficits, public debt, contingent liabilities, and interest rates (e.g., Australia, Canada, China, France, Germany, Russia, Saudi Arabia, the United Kingdom, and the United States). By contrast, others faced higher real interest rates (Brazil, Italy, and Turkey) or elevated debt levels (India, Italy, and Japan), with less room to expand. Indeed, the size of the discretionary fiscal stimulus has been negatively correlated with the size of public debt (Chart 3). [17]

[17] One additional factor that could explain differences in fiscal expansion across countries is the different monetary stance: countries where monetary policy is more relaxed would, in principle, need less of a contribution from fiscal policy. This factor could, however, be less relevant in the current conjuncture to the extent that the monetary policy transmission mechanism is impaired.

Chart 3. Public Debt and Discretionary Fiscal Stimulus Relative to Pre-Crisis Year 1/



1/ Pre-crisis year is 2007 for all countries.

47. **What has been the effect of fiscal policy on growth?** Given the focus on annual *growth*, it is useful to focus on the change in the overall fiscal balance from one year to the next (fiscal expansion). For the G-20 countries as a group, fiscal expansion would amount to approximately 1.8 percent of GDP in 2008, 2.4 percent of GDP in 2009, with a modest 0.4 percent of GDP expansion in 2010 (Table 4). Automatic stabilizers and other factors would account for less than half of the expansion in 2009, while in 2010, the automatic stabilizers would be largely offset by the withdrawal of discretionary stimulus.

Table 4. G-20 Countries: Impact of Fiscal Expansion on Growth 1/

	2008	2009	2010	Average
Fiscal expansion		(in percent of GDP)		
Discretionary impulse	0.5	1.2	-0.5	0.4
Total fiscal expansion	1.8	2.4	0.4	1.5
Expenditures	1.1	1.4	0.6	1.0
Revenue	0.7	1.0	-0.2	0.5
Memorandum items:				
Cumulative discretionary impulse	0.5	1.8	1.3	1.2
Cumulative fiscal expansion	1.8	4.2	4.5	3.5
Impact on growth (low-high range) 2/		(in percent)		
Feb. 2009 G-20 note				
Discretionary impulse	n.a.	0.4 - 1.3	0.1 - 0.2	n.a.
Current G-20 note				
Total fiscal expansion	0.6 - 2.4	0.8 - 3.2	0.1 - 0.9	0.5 - 2.2
of which: global spillovers	0.1 - 0.8	0.1 - 1.0	0.0 - 0.3	0.0 - 0.7

1/ Fiscal expansion and growth are calculated with respect to the previous year, except for cumulative discretionary stimulus and cumulative fiscal expansion, which is calculated with respect to 2007.
2/ The range of growth estimates reflects different assumptions on fiscal multipliers. The low set of multipliers included a multiplier of 0.3 on revenue, 0.5 on capital spending and 0.3 on other spending. The high set of multipliers included a multiplier of 0.6 on revenue, 1.8 on capital spending and 1 for other spending. For calculation of the growth impact of total fiscal expansion a weighted average of current and capital expenditure multipliers was used.
3/ For the calculations of growth impacts from fiscal expansion, the change of the overall balance was adjusted: for Russia and Saudi Arabia, the change in non-oil revenues was used (rather than total revenues); for Saudi Arabia, the change in discretionary measures were used (rather than total expenditures); for the U.S., estimates of losses from financial sector support were excluded.

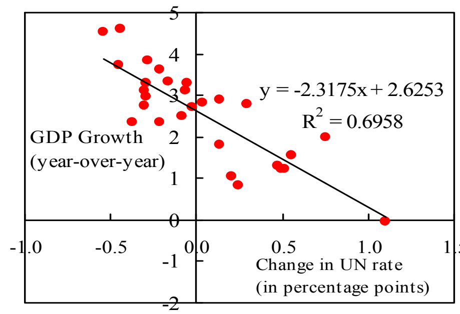
48. **On this basis, the growth effect from the total fiscal expansion is estimated between 0.8 and 3.2 percentage points in 2009 and 0.1 to 0.9 percentage point in 2010,** depending on the assumed size of multipliers.[18] For 2009, the effective multiplier is slightly lower than in 2010 as the composition is roughly evenly split between an expansion of expenditure and revenue while in 2010, the expansion is more focused on expenditures (with a withdrawal from the revenue side). Moreover, the expansion arising from expenditure in the United States increases in 2010 relative to 2009, which implies both a larger effective multiplier as well as greater spillovers to other countries given the sheer size of the U.S. economy. The results also provide an estimate of the possible spillover effects arising from the global nature of the expansion. In particular, the fact that many countries are implementing expansionary fiscal policy simultaneously suggests that the output effects should be greater as leakages through imports are counterbalanced by increased exports to

[18] The range of multipliers used is based on estimates from various sources (for some recent model-based estimates see Freedman et al., 2009, “The Case for Global Fiscal Stimulus”). The range is the same used in the Surveillance Note for the February G-20 meeting, namely 0.3-0.6 for revenues 0.5-1.8 for investment, and 0.3-1.0 for other spending.

other countries that are implementing a fiscal expansion. For 2008–2010, with the higher multipliers, these spillovers account for around ⅓ of the growth impact.

49. **The fiscal expansion would also provide a substantial boost to employment through higher economic growth**. A simple benchmark for the employment effects of the expansion is based on the historical relation between GDP growth and changes in the unemployment rate (Okun's law). This empirical approach abstracts from issues such as the labor-intensity of growth from different components of demand, but nonetheless provides a useful, albeit coarse, estimate of the fiscal impact on job creation. At an aggregate level, assuming that the total fiscal expansion raises GDP growth in G-20 economies by about 2 percentage points (based on the same multipliers used for Chart 2, and close to the mid-point of the above range) in 2009, the unemployment rate would correspondingly be lowered by about ¾ to 1 percentage point (compared to a baseline without fiscal expansion).[19] Excluding China and India, this would translate into approximately 7 millions jobs saved or created. Including China and India, the total rises to nearly 19 million.[20]

G20 Okun's Law, 1981-2008
(In percent; ppp weighted)



50. **There are a few caveats to this analysis**. First, it assumes that the policy initiatives are undertaken as planned and not delayed. Second, the analysis assumes that the fiscal expansion is financed at low interest rates and does not give rise to an increase in risk premia. Thus, it implicitly assumes that credible medium-term strategies will be put in place to deal with the increase in debt. Third, the analysis is predicated on continued trade openness and an assumption that countries do not resort to "buy-domestic" strategies. Finally, the efficacy of fiscal policy depends crucially on reducing uncertainty, which requires addressing forcefully the existing financial sector problems.[21]

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[19] This calculation is derived from estimates of Okun's Law using PPP-weighted data for 18 of the 19 individual countries that comprise the G-20 (i.e., excluding India due to data limitations). Okun's law can be shown to summarize well the relationship between G-20 annual GDP growth and changes in unemployment rates for the period 1980 through 2008.

[20] For comparison, the ILO's *Global Employment Trends* (January 2009) considers variations in 2009 global unemployment of 8, 20, and 40 million persons in its three alternative scenarios .

[21] A further caveat is that the analysis is based on the overall fiscal balance, rather than the primary balance (excluding interest payments). The growth impacts for countries with large foreign interest payments (Turkey) will be smaller than for countries with large domestic interest payments.

51. **Fiscal policy is also playing an important role in supporting the financial sector**. Such support has taken a variety of forms, including (i) direct capital injections into banks and other financial institutions—for the G-20 countries, the average is projected at about 2 percent of GDP, with considerable variations across countries; (ii) purchase of assets from financial institutions and direct lending by Treasuries, amounting to 3.3 percent of GDP across the G-20; and (iii) central bank support with Treasury financing (Table 5). While these operations lead to an immediate increase in government debt, other forms of public support, most notably liquidity provision by central banks and the extension of government guarantees on deposits and other bank liabilities could also eventually entail budgetary costs and add to government debt. On the other hand, however, the use of public balance sheets to stabilize the financial sector (below the line transaction) will also have further impact on improving confidence and bolstering growth prospects.

Table 5. Headline Support for the Financial Sector and Upfront Financing Need

(As of February 18, 2009; in percent of GDP)

	Capital Injection (A)	Purchase of Assets and Lending by Treasury (B)	Central Bank Support Provided with Treasury Backing (C)	Liquidity Provision and Other Support by Central Bank 1/ (D)	Guarantees 2/ (E)	Total (A+B+C+D+E)	Upfront Government Financing 3/
Average 4/							
G-20	1.90	3.29	0.96	9.34	12.39	27.88	3.31
Advanced Economies	2.90	5.20	1.34	13.93	19.74	43.12	5.22
Memorandum item: EU G-20	2.57	3.83	3.15	0.51	13.71	23.78	6.65
Emerging Economies	0.22	0.09	0.32	1.64	0.06	2.32	0.11

Source: FAD-MCM database on public interventions.

1/ This table includes operations of new special facilities designed to address the current crisis and does not include the operations of the regular liquidity facilities provided by central banks. Outstanding amounts under the latter have increased substantially, and their maturity has been lengthened in recent months in many cases, including the ECB.

2/ Excludes deposit insurance provided by deposit insurance agencies.

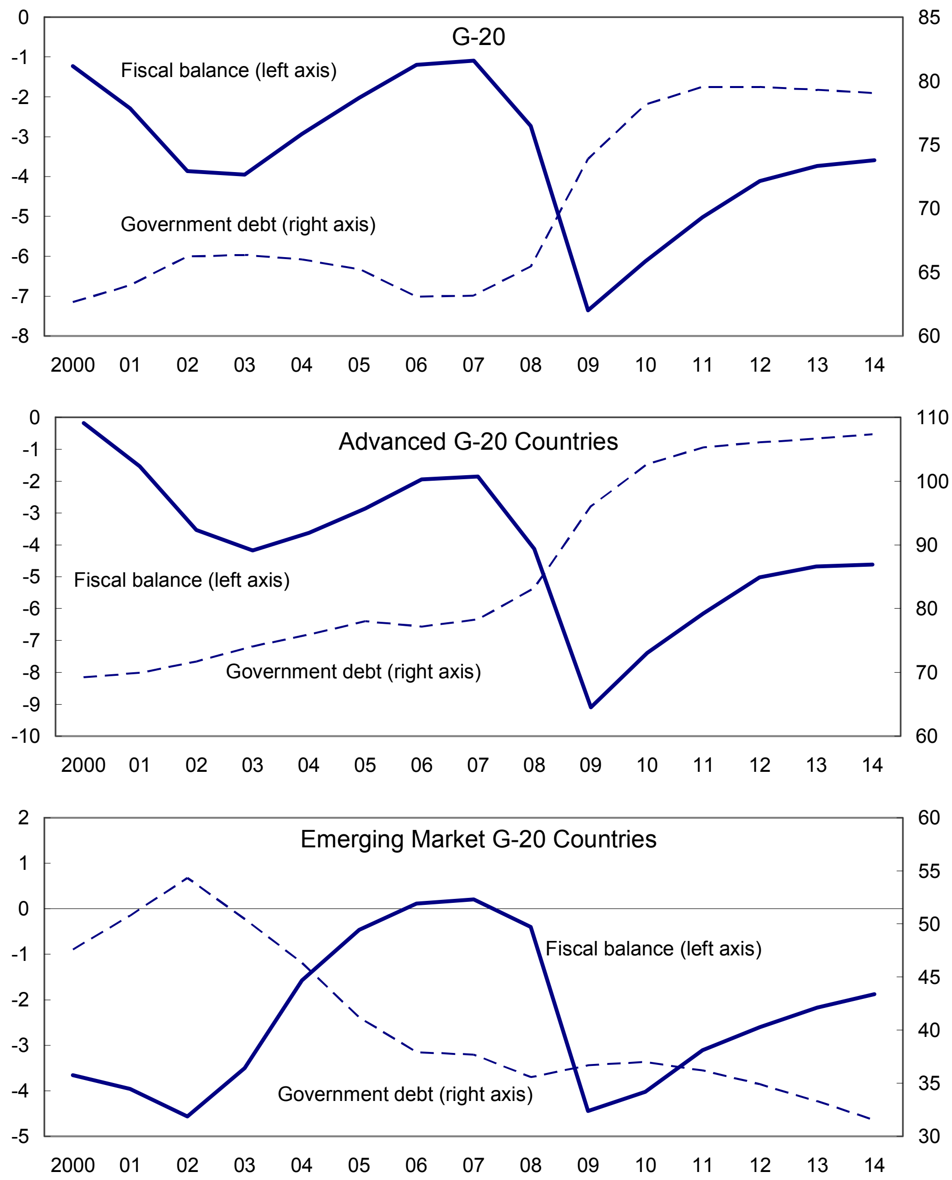
3/ This includes components of A, B and C that require upfront government outlays.

4/ Weighted average using PPP GDP weights.

52. **The total upfront impact on gross government debt of financial sector support announced as of end-February 2009 is estimated at 3¼ percent of GDP for the G-20 as a whole**. There are however substantial differences across countries, with larger support packages typically provided in advanced economies—total support (including guarantees) and upfront impact are estimated at about 43 percent and 5 percent of GDP, respectively. In emerging countries, total support is estimated at about 2 percent of GDP, with the upfront impact on gross debt at less than ¼ percent of GDP. The medium-term net cost of these operations will depend on: (i) the extent to which the assets acquired by government or the central bank hold their value and can be disinvested without losses; and (ii) the potential losses from guarantees.

53. **Public finances will remain under significant pressure in the short and medium run**.[22] After reaching 8 percent of GDP in 2009, the G-20 advanced economies' fiscal deficit is projected to decline gradually over the medium term reflecting a resumption of growth and withdrawal of discretionary fiscal stimulus, but will remain high. The fiscal balances of the G-20 emerging economies, which are projected to deteriorate somewhat less in the short run, will also narrow over the medium term.

Outlook for Public Finances in the G20
(In percent of GDP)



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[22] The following figures update those included in the IMF Board Paper on "The State of Public Finances", SM/09/27, January 27, 2009.

54. **Debt ratios are projected to rise sharply in the advanced economies, in contrast to the projections for emerging markets**. In particular, G-20 advanced economies' debt-to-GDP ratio is projected to increase by 14½ percentage points over 2008–09, and by about another 10 percentage points over 2010–14. For G-20 emerging economies, the average shows a small increase in 2009, the first since 2002, but the projected medium-term debt path is more benign owing to higher growth. Still, in 2010, debt ratios in these countries would be roughly unchanged compared with their 2007 levels, and the declining trend will not resume until 2011.

55. **The above projections are subject to significant downside risks**, arising from a variety of sources including weaker than expected GDP growth. For instance, if growth were 1 and 2 percentage points lower in 2009 and 2010 respectively, and then gradually converged to the baseline growth in 2013, for the advanced economies debt ratios would rise by an additional 12 percentage points with respect to the baseline. The deterioration would also be significant for the emerging economies. The other major risk arises from the possible need of additional support to the financial sector, a risk that would indeed more likely to materialize in the context of a lower growth scenario.

Advanced G-20 Countries: Prolonged Slowdown Scenario

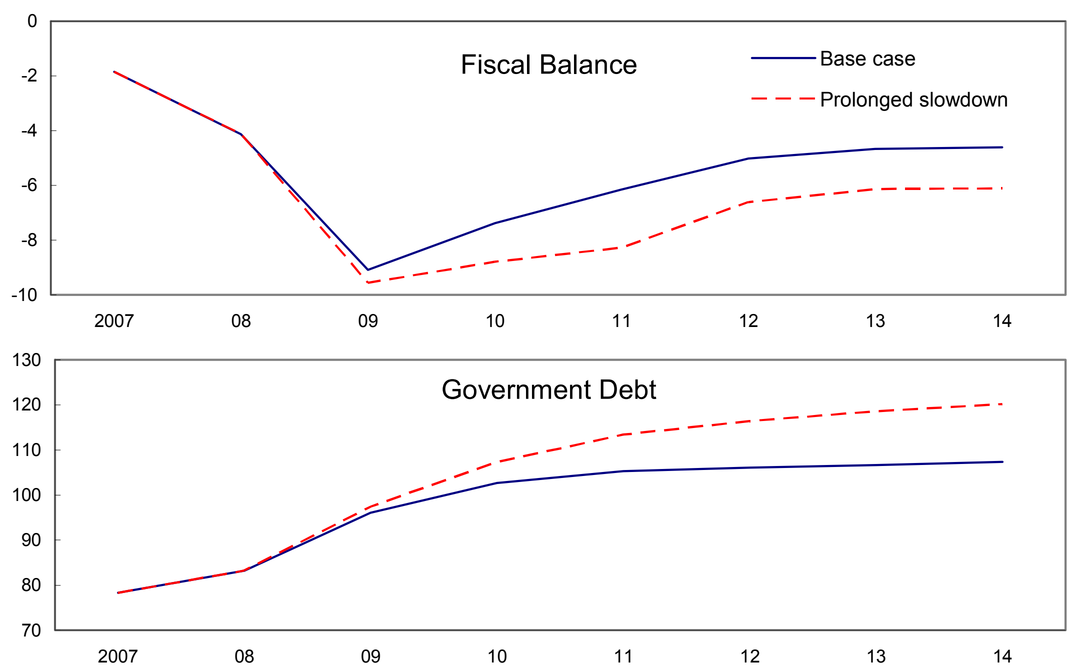

Table 1. Discretionary Fiscal Measures: G-20 Country Breakdown, 2008-10 1/ 2/

(in percent of GDP, relative to 2007 baseline)

	2008	2009	2010
Argentina	0.0	1.3	...
Australia 3/	0.7	2.1	1.7
Brazil	0.0	0.4	0.2
Canada	0.0	1.5	1.3
China	0.4	3.2	2.7
France	0.0	0.7	0.7
Germany	0.0	1.5	2.0
India 3/	0.6	0.6	...
Indonesia	0.0	1.3	0.6
Italy	0.0	0.2	0.1
Japan	0.4	1.4	0.4
Korea	1.1	2.3	1.3
Mexico	0.0	1.5	...
Russia	0.0	2.3	1.6
Saudi Arabia	2.4	3.3	3.5
South Africa 3/ 4/	1.7	1.8	-0.6
Turkey 5/	0.0	...	...
United Kingdom	0.2	1.4	-0.1
United States 6/	1.1	2.0	1.8
G-20 PPP-GDP weighted average	0.5	1.8	1.3
Memorandum item: EU G-20	0.1	1.0	0.8
G-20 discretionary impulse 7/	0.5	1.2	-0.5

Source: IMF staff estimates.

1/ Figures reflect the budgetary cost of crisis-related discretionary measures in each year compared to 2007 (baseline), based on measures announced through early March. They do not include (i) "below-the-line" operations that involve acquisition of assets (including financial sector support) or (ii) measures that were already planned for. Some figures represent staff's preliminary analysis.

2/ "..." is used for countries for which no information is available on the size of their fiscal packages.

3/ Fiscal year basis.

4/ Stimulus estimates are based on the FY 2009/10 budget.

5/ Measures to help alleviate crisis impacts, as of end-February, include extension of regional subsidy programs, increase in workers' severance benefits, and tax relief programs. No estimate of the fiscal cost is yet available.

6/ Excludes cost of financial system support measures (estimated at US$797 billion, or 5.7 percent of GDP in 2009).

7/ Change from the previous year.

Table 2. Overall Balance, Automatic Stabilizers and Discretionary Measures: G-20 Country Breakdown

(in percent of GDP)

	Overall Balance				Average Annual Change in 2008-2010 w.r.t. 2007			
	2007	2008	2009	2010	Overall Balance 2/	Automatic Stabilizers	Discretionary Measures	Other 1/
Argentina	-2.3	-0.5	-3.6	-2.3	0.2	-0.6	-0.4	1.2
Australia	1.6	0.1	-2.2	-2.8	-3.3	-1.7	-1.5	0.0
Brazil	-2.2	-1.5	-1.0	-0.8	1.1	-0.7	-0.2	2.0
Canada	1.4	0.4	-3.2	-3.7	-3.6	-1.8	-0.9	-0.9
China	0.9	-0.3	-3.6	-3.6	-3.4	-0.6	-2.1	-0.7
France	-2.7	-3.1	-6.0	-6.2	-2.5	-2.4	-0.4	0.3
Germany	-0.2	-0.1	-4.0	-5.2	-3.0	-1.6	-1.1	-0.2
India	-5.2	-8.4	-10.0	-8.6	-3.8	-0.4	-0.4	-3.0
Indonesia	-1.2	0.1	-2.5	-2.1	-0.3	-0.1	-0.6	0.5
Italy	-1.5	-2.7	-4.8	-5.2	-2.7	-2.6	-0.1	0.0
Japan	-3.4	-5.0	-8.1	-8.3	-3.7	-2.2	-0.7	-0.9
Korea	3.8	1.2	-2.2	-3.2	-5.1	-1.5	-1.6	-2.1
Mexico	-1.4	-1.9	-3.2	-2.9	-1.3	-1.3	-0.5	0.6
Russia 2/	6.8	4.2	-5.2	-5.1	-8.8	-1.4	-1.3	-6.1
Saudi Arabia 2/	15.8	35.5	-8.3	-6.5	-8.9	-0.5	-3.1	-5.4
South Africa	0.9	-0.1	-2.7	-3.4	-3.0	-0.6	-1.0	-1.5
Turkey	-2.1	-3.0	-4.2	-3.3	-1.4	-2.1	0.0	0.7
United Kingdom	-2.7	-5.5	-9.5	-11.0	-6.0	-2.5	-0.5	-2.9
United States 2/	-2.9	-5.9	-7.7	-8.9	-4.6	-1.6	-1.6	-1.4
G-20 PPP GDP-weighted average	-1.1	-2.6	-5.9	-6.3	-3.8	-1.4	-1.2	-1.2
Memorandum item: EU G-20	-1.6	-2.7	-6.0	-6.9	-3.5	-2.2	-0.6	-0.7

Source: Fund staff estimates; see Chapter V of "Companion Paper--The State of Public Finances--Outlook and Medium-Term Policies after the 2008 Crisis" for a discussion of the estimation of the impact of automatic stabilizers.

1/ Includes other, non-crisis related discretionary spending or revenue measures (e.g., changes in defense spending), as well as the impact of non-discretionary effects on revenues beyond the normal cycle. These include the revenue impacts of the extraordinary decline in commodity (e.g., Russia, Saudi Arabia) and real estate prices and financial sector profits (estimated to be larger for the U.K. and U.S.). For some countries, "other" is positive, due to assumed compliance with fiscal rules limiting the size of permissible deficits (e.g., Mexico, Brazil). Finally, for other countries, a large value for "other" reflects differences in fiscal coverage, in particular spending measures taken off-budget or by subnational governments (e.g., Canada, India) not captured in estimates of discretionary measures.

2/ For the calculations in Chart 2 as well as the calculation of growth impacts from fiscal expansion (see below), the change of the overall balance was adjusted: for Russia and Saudi Arabia, the change in non-oil revenues was used (rather than total revenues); for Saudi Arabia, the change in discretionary measures were used (rather than total expenditures); for the U.S., estimates of losses from financial sector support (5.7 percent of GDP in 2009) were excluded (and are excluded above).