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Macroeconomic Policy Response to the International Financial Crisis through an Indian Prism

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It is difficult at this point in time, with little benefit of hindsight and still in the midst of crisis, to say whether we are passing through yet another of those financial crises that have punctuated economic history from time to time or whether we are indeed at a historic tipping point, a watershed that will fundamentally transform the global economy, the conduct of macroeconomic policy, financial regulation, and international financial institutions.[1] The magnitude of the macroeconomic policy response is nevertheless already apparent.

The Global Financial and Economic Crisis and the Macroeconomic Policy Response

The recent financial crisis has exposed structural imbalances in the global economy; it has underscored the need to address the blunting of macroeconomic policy tools through greater global coordination; it has exposed the limits of monetary policy, even as it pressured mainstream monetary policy to effectively target financial

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1. On the less historic possibility, see Reinhart and Rogoff (2008). On the tipping point, see Blanchard, Dell'Ariccia, and Mauro (2010), who say that, according to the International Monetary Fund, the crisis "has exposed flaws in the precrisis policy framework, forced policymakers to explore new policies during the crisis, and forces us to think about the architecture of postcrisis macroeconomic policy," p. 16.

stability through new policy tools; it has accorded fiscal policy a new-found halo despite its checkered track record, leading to unsustainable levels of debt in developed markets—which may not be easy to exit; it has led to major initiatives to restructure the global economy and finance; and it has revived old debates and questions regarding the international monetary system.

The so-called Great Moderation preceding the crisis, characterized by unprecedented high rates of growth and accelerating economic integration across the globe (table 3-1), against an apparently benign macroeconomic backdrop of stable prices and low interest rates, turned out to be simply the proverbial calm before the storm. It seems odd, even appalling, that few economists, policymakers, and multilateral surveillance bodies saw the gathering storm, especially since the proverbial calm was associated with galloping leverage and several macroeconomic anomalies.[2]

The Great Moderation and Macroeconomic Anomalies

Accelerated and rapid globalization in the run-up to the crisis increasingly blunted both monetary and fiscal policies on account of cross-border spillages through financial and trading channels and structural changes in the global economy. Alan Greenspan, erstwhile chairman of the U.S. Federal Reserve, famously referred to the "conundrum" by which the Fed was losing control of long-term interest rates on account of large capital flows induced by globalization.[3] Large capital flows were weakening monetary policy transmission through a decoupling of short-term rates (that responded to central bank interventions) and long-term rates (that responded more to capital flows).

To a great extent this surge in cross-border flows was associated with exchange rate interventions on an epic scale (in what has come to be called Bretton Woods II) and with the consequential buildup of global imbalances, which were them-

2. Queen Elizabeth of England asked luminaries at the London School of Economics in November 2008 why nobody saw the credit crunch coming. While it is almost impossible to predict a crisis, storm clouds can certainly be discerned. Some economists, such as William White and Claudio Borio at the Bank for International Settlements, did warn of the buildup of financial instability, on account of credit expansion, and too narrow a focus on consumer price stability; see White (2006). Raghuram Rajan, in a speech at the IMF conference, Jackson Hole, August 2005, also pointed to the shift away from deposit-backed banking, the growing risk appetite of bank managers, and liquidity risks, as financial systems in advanced countries became more complex (http://imf.org/external/np/speeches/2005/082705). There was also, of course, the long-standing prophet of doom, Nouriel Roubini, who famously predicted the broad contours of the coming crisis—including the housing bust and recession but not the severity of the crisis in the financial system—in his speech at the IMF on September 7, 2006. The International Monetary Fund itself had sounded a warning on the buildup of unsustainable global imbalances as early as its 2002 *World Economic Outlook*, even before the Chinese current account surpluses; also see International Monetary Fund (2007). But imbalances were expected to lead to a disorderly collapse of the dollar, not a global financial meltdown and a strengthening of the dollar. See also McKinsey Global Institute (2010).

3. Greenspan (2007), p. 381. During the Great Moderation, however, even short-term interest rates were set at rates lower than those mandated under the Taylor rule. See Taylor (2010).

Table 3-1. *Global Growth and Globalization, 1992–2010*
Percent

Year	Global growth	EGS/GDP[a]	CP inflation[a]	
			Advanced	*Developing*
1992–2001	3.2	21.5	2.4	38.4
2002	2.9	23.9	1.6	6.9
2003	3.6	24.1	1.9	6.7
2004	4.9	25.0	2.0	5.9
2005	4.6	27.0	2.3	5.9
2006	5.2	28.4	2.4	5.6
2007	5.3	30.2	2.2	6.5
2008	2.8	31.2	3.4	9.2
2009	−0.6	32.4	0.1	5.2
2010	4.8	27.1	1.4	6.2

Source: International Monetary Fund, *World Economic Outlook* (2010).
a. CP = commercial paper; EGS = export of goals and services.

selves anomalous, as (contrary to economic theory) capital seemed to travel uphill from developing countries to developed countries, rather than the other way around.[4] This should have raised red flags, since this capital was not being invested in the real economy but going into leveraged consumption, just as it did in Latin America following the recycling of oil surpluses in the 1970s. Infirmities in the growing complexity of the financial systems of developed countries that intermediated this leveraged consumption, however, were not on the radar screen of the International Monetary Fund (IMF), which was firmly focused on weaknesses in the financial systems of developing countries.

Likewise, the global integration of goods and services markets through trade was changing the nature of inflation, with both monetary and fiscal policies affecting the price of domestic asset markets and nontradables much more than the price of traded goods, which mostly compose the consumer price indexes targeted by central banks.[5] Consumer prices remained low despite record growth not because of the success of inflation targeting but because of the "good deflation" triggered by the integration of large emerging markets like the People's Republic of China (henceforth referred to as China) and India into the global market for tradable goods and services. Indeed, this disinflationary impulse possibly

4. The combined account surplus of developing Asia and Middle Eastern countries rose sharply from $110 billion in 2000 to $660 billion in 2007, while that of Japan rose from $120 billion to $211 billion, and that of Germany from −$33 billion to $250 billion. The U.S. current account deficit meanwhile rose from $417 billion to $731 billion. During this period the foreign currency reserves of developing and emerging economies increased by almost $4 trillion; see International Monetary Fund, *World Economic Outlook,* October 2008. Also see Bibow (2010).

5. See Borio and Filardo (2007) on inflation.

confounded central banks to contravene the Taylor Rule and keep monetary policy unusually loose for an extended period in the run-up to the crisis. The excess liquidity spilled over into asset and commodity markets and into emerging markets in search of higher yields. Since capital could move freely across borders, but labor could not, the response of employment to a domestic policy stimulus was greatly weakened, leading to the phenomenon of jobless growth and outsourcing of production.

Fiscal policy tools in developed countries were being increasingly blunted by rising structural deficits that were reducing the cyclical space necessary to respond effectively to crises. In the United States deep tax cuts and rising defense spending were increasing fiscal deficits in the period preceding the crisis, even as age-related deficits loomed ahead. In Europe, the Maastricht fiscal framework was under increasing pressure from below-replacement birth rates and lower growth, on the one hand, and escalating age-related expenditures deriving from generous social welfare schemes, on the other. This was making it increasingly difficult to adhere to the Maastricht caps of 3 percent and 60 percent, respectively, for fiscal deficits and public debt in the absence of any serious attempt to negotiate unsustainable social compacts. Expenditures and debt levels needed to be recalibrated to growth prospects going forward, rather than to historic averages. Cyclical deficits, and sustainable levels of debt, were underestimated, since trend growth was drifting downward.

Recognizing this blunting of national macroeconomic policy instruments, the G-20 has been coordinating the policies of systemically important economies to make them more effective in combating the crisis and in addressing structural problems in the global economy.[6] It is now widely acknowledged, and eminently evident in the recent rise of the G-20, that global problems now need global solutions.

The Great Moderation, which inspired some observers to spell the death of business cycles, was therefore an indication that rapid, multilayered, global integration was redefining acknowledged relationships and challenging established economic paradigms. It should therefore not be intriguing that the proximate roots of the current global crisis lay in a sector traditionally considered nontradable. Since macroeconomic policies did not adjust to changing winds, in retrospect it is also unsurprising that the world found itself trapped in a perfect storm, now widely believed to be the greatest threat to the international economy and financial system since the Great Depression, with dramatic declines in global growth, industrial production, stock markets, international trade, and credit markets comparable with trends in the 1930s.[7]

6. Borio and Filardo (2007). For a contrarian viewpoint see Woodford (2007).
7. See the periodic updates in Eichengreen and O'Rourke (2010).

Table 3-2. *Economic Measures, Lead-Up to 2008 Recession, Selected Years, 1975–2000*

Percent change

Percent change	*1975*	*1982*	*1991*	*2009*
Output per capita (PPP)	−0.13	−0.89	−0.18	−2.50
Consumption per capita	0.41	−0.18	0.62	−1.11
Investment per capita	−2.04	−4.72	−0.15	−8.74
Industrial production	−1.60	−4.33	−0.09	−6.23
Trade	−1.87	−0.69	4.01	−11.75
Capital flows/GDP	0.56	−0.76	−2.07	−6.18

Source: International Monetary Fund, *World Economic Outlook* (2009, 2010).

The Global Financial Crisis

The recent financial crisis is quite unprecedented from the viewpoint of recent memory (table 3-2) and has several parallels with the Great Depression of the 1930s. Both had their origins in the United States and were preceded by growing imbalances and intensive globalization; both were preceded by excessive liquidity and leveraging, leading to a runaway boom in asset prices; both involved the failure, or the threat of failure, of financial institutions on a large scale; both involved a run on banks, even though the run was on conventional deposit-based institutions in the 1930s and on the capital-market-based shadow banking system during the current crisis; and like the 1930s, the current crisis threatens to culminate in a protracted period of low or negative growth, deleveraging, deflation, and deglobalization. The Great Depression was also punctuated by several temporary recoveries, when it seemed that the bottom had been reached and recovery was under way. These proved to be false dawns on each occasion, as things only kept going from bad to worse.

After initially falling more sharply than in the first twelve months of both the Great Depression and the current recession (beginning June 1929 and April 2008, respectively), global output, industrial production, equity markets, and trade turned positive again. Most developed economies are technically out of the recession, and the National Bureau of Economic Research has also certified that the U.S. recession ended in June 2009, having recorded successive quarters of positive growth after several quarters of negative growth and signs of recovery in the housing market.[8] While the recovery in advanced countries is anemic compared to the aftermath of previous recessions, and relatively jobless, dynamic emerging market economies seem to be firing on all cylinders once more, having seemingly

8. S&P Case-Shiller house price indexes (www.standardandpoors.com/indices/sp-case-shiller-home-price-indices/en/us/?indexId=spusa-cashpidff—p-us).

decoupled from OECD countries. Instead of their growth being driven by OECD countries, they seem to be driving growth in the latter.

The global economy nevertheless remains on steroids, propped up by extraordinary fiscal and monetary life support. The U.S. housing finance sector is still virtually nationalized, with most of the repayment risk ultimately devolving on government-sponsored enterprises like Fannie Mae and Freddie Mac, which are in turn backstopped by the U.S. Treasury. While large brick and mortar corporates are able to tap bond markets (which they could indeed do through the entire crisis), the shallow recovery in the banking system is hampering the traditional drivers of employment and growth of past recessions in the United States, namely, small and medium-sized enterprises.

While the banking system in developed countries has so far been unable to drive sustainable recovery of the real economy in advanced countries, it has nevertheless returned to profitability on the back of taxpayer bailouts and unprecedented monetary easing, conventional and unconventional, that has given it access to unlimited amounts of low-cost funding. Consumers are still repairing their damaged balance sheets. Housing equity in the United States that funded much of the consumption in the past continues to decline, as housing prices have resumed their downward trend after showing some signs of recovery. Although showing a declining rate, delinquency rates in residential real estate loans in the first quarter of 2011 were still around three times higher than the earlier peak recorded over the last twenty-five years for which data are available on the U.S. Federal Reserve website.[9] Credit markets in developed markets are still timid, as private deleveraging continues apace, with depository institutions continuing to park huge amounts of money with the Federal Reserve, even as total deleveraging in the system is limited by public leveraging on a scale unprecedented in peacetime.[10]

Toxic assets, much of which are now parked on the hugely expanded sheets of central banks, show few signs of recovering their former value. The market response to the new and tighter Basel-III capital and liquidity norms, including their extended phase-in, is still unclear. Despite the rapid growth of trade among emerging market intermediates, the destination of much of their final production still lies in OECD countries. It is consequently too early to definitively discount the possibility of a second dip once inventories are built up. Only when fiscal and monetary life-support systems are withdrawn and replaced by private demand can the recovery be considered assured and sustainable.

9. Federal Reserve, "Charge-Off and Delinquency Rates on Loans and Leases at Commercial Banks," release (www.federalreserve.gov/releases/chargeoff/delallsa.htm).

10. McKinsey Global Institute (2010). For continuing declines in U.S. commercial paper outstanding, see Federal Reserve release, "Commercial Paper Rates and Outstanding Summary" (www.federalreserve.gov/releases/cp). Also see Federal Reserve release (www.federalreserve.gov/releases/h3/hist/h3hist1.pdf).

While extraordinary fiscal and monetary policies adopted by G-20 countries, and forbearance in keeping markets open, are widely credited for having averted a second Great Depression, the global economy nevertheless appears to be at an inflection point.[11] It is teetering between recovery in the real economy and renewed strains in financial markets, induced by a crisis brewing in the euro zone that is threatening to boil over into the wider global economy. This disconnect between the real economy and financial markets is eerily familiar, a throwback to the confounding debate in the early stages of the global financial crisis. It was forgotten then, and is perhaps overlooked now, that the real economy lags developments in the financial sector. Financial markets eventually caught up with the real economy—and how! They could well do so again.

The origins and transmission channels of the recent global financial crisis, in which defaults in a small (subprime) segment of the American housing mortgage market pulled down the entire edifice of global finance, are too complex to detail here. Suffice it to say that most economists fall into two main camps. The first camp points to regulatory, policy, and supervisory failures, which saw a rapidly increasing proportion of financial intermediation migrate to the lightly regulated, complex, and interconnected shadow banking system, a banking system with no central bank liquidity backstops on the one hand, and excessively loose monetary policy, on the other.[12] This made it possible for a problem in a small segment of the U.S. housing market to virtually take out the entire structure of global finance.

11. WTO/OECD/UNCTAD (2010). Despite several minor protectionist steps, the World Trade Organization's assessment for the G-20 is that markets have by and large remained open. Having repeatedly sounded warnings on the catastrophic consequences of protectionism (as witnessed during the Great Depression), the G-20 can perhaps take some credit for this. The Smoot-Hawley Act of 1930 raised import duties on over 20,000 items and provoked retaliation from other countries. Global trade volumes consequently shrank sharply, from $36 billion in 1929 to just $12 billion in 1932. These tariffs are widely credited for tipping a recession into the Great Depression as U.S. exports dropped from $5.2 billion to $1.2 billion; see Chen Deming, "Protectionism Doesn't Pay," *Wall Street Journal,* February 20–22, 2009. Having said this, it would be well to keep in mind that the size and structure of world trade has changed enormously since the 1930s. While imports grew from 5 percent to 15 percent of GDP between 1929 and 2009, global production chains also mean that there are few domestic stakeholders supporting raising tariff walls, as was done during the Great Depression through the Smoot-Hawley tariffs. Protection to domestic industry is now more likely to be done through fiscal support measures, export taxes, discriminatory labor policies, aggressive exchange rate management, and other unconventional and nontariff routes. In short, fiscal and monetary policies have taken over the burden of trade policy.

12. The U.S. urban consumer price index rose by just 10 percent between June 2000 and March 2004. The U.S. Case-Shiller housing index rose by 60 percent during the same period. The Federal Reserve serially lowered the intended Fed funds rate from 6.5 percent to 1 percent over this period. Be that as it may, Fed policy was even looser than what these benign consumer inflation trends warranted, and it violated the very principles that had informed its policy over the last few decades. See *The Economist,* October 18, 2007, for graph showing the deviation of the Fed funds rate from the Taylor rule. (The Taylor rule was derived from Fed policies that had worked well during the Great Moderation.)

The second camp focuses on growing and unsustainable global imbalances, fueled by Bretton Woods II, that greatly increased global liquidity, lowered interest rates and return to capital, and fueled hyperleverage, financial innovation and excessive risk taking.

As the entire developed world slipped into synchronized recession and deflation, central banks across the globe were constrained to use their full armory of monetary policy tools, both conventional and unconventional, in a desperate attempt to pull the economy from the edge of economic Armageddon. As it became apparent that transmission channels of monetary policy, the first line of macroeconomic defense, were failing, governments supplemented central banks' efforts with fiscal expansion on a scale never seen in peacetime. Just as it appeared that the aggressive monetary, and particularly fiscal, policies may have pulled the global economy from the brink of a second Great Depression, deeper roots—which may have sprouted even before the subprime mortgage mess—were uncovered in the euro zone. Despite its aggregate external balance, monetary union in the late 1990s papered over deep internal imbalances, with southern European countries running huge current account or fiscal imbalances, which could be cheaply leveraged on the strength of the balance sheets of robust northern economies, such as Germany, France, and the Netherlands.

The globally synchronized downturn, characterized by a simultaneous deterioration in external demand and domestic revenues, exposed the frailties inherent in such internal imbalances. It now appears that European banks were hugely exposed to subprime sovereign debt in their own backyard, over and above the private exposures they may have taken. Suddenly European banks seem more vulnerable than their American counterparts, which have mostly recapitalized their losses. Financial markets eventually caught up with these economies, raising their sovereign borrowing spreads to levels that effectively mean they have been priced out of debt markets, raising fears of sovereign default and a double-dip recession. Fingers in treasuries and central banks across the globe are mostly still crossed that the global financial crisis does not morph into a full-blown sovereign debt crisis, for concerns relating to mounting deficits and public debt are no longer confined to "club Mediterranean" countries. The European Financial Stability Facility (EFSF), complemented by the IMF backstop, has failed to quell market fears regarding the health of European banks and sovereign balance sheets, as the underlying problem runs very deep and entails bold political decisions for its resolution.

As the German chancellor, Angela Merkel, sagely observed, large deficits make governments cede control to markets, since deficits need to be funded. If sovereign borrowing costs were to rise, servicing even current debt levels would become more difficult despite bold austerity measures, as some euro zone countries are discovering. Markets also fear that this might constrain central banks to keep policy rates unnaturally low and persist with quantitative easing for an extended period

of time to prop up sovereign debt, fueling the kind of asset bubbles that lay behind the recent global financial crisis.[13]

The Macroeconomic Policy Response

The policy response to the recent crisis was tempered by lessons learned from macroeconomic management ever since the Great Depression, in particular the interplay between monetary and fiscal policies. Following the inflationary 1970s, and the overreliance on Keynesian economics that underscored discretionary fiscal policies to stimulate growth, monetary policy administered through independent central banks gradually came to occupy the first line of defense in stabilizing growth. According to the IMF, past experience on the use of fiscal policies indicates that they have been by and large ineffectual in developing countries, and even in developed countries they have worked only where they have been timely, temporary, and targeted, which has rarely been the case on account of the political process they need to navigate.[14] Monetary policy itself had become less discretionary and more rule based, with several central banks using variants of the Taylor rule to stabilize growth and some moving to pure inflation targeting.

MONETARY POLICY. Conventional monetary policy consists of a benchmark short-term interest rate that is transmitted along the entire yield curve. Lowering rates steepens the yield curve, thereby stimulating banks to lend more as extending credit becomes more profitable. This in turn increases the velocity of money in circulation, which stimulates economic activity. Tight monetary policy flattens the yield curve, making banks more reluctant to lend. To sum, lower short rates lead to a lower long rate, which determines GDP.

At the best of times, however, monetary policy transmission has long leads and lags and may, on its own, be inadequate in heading off a rapid deterioration in the economy. Lowering rates make deposits incrementally unattractive, while recessionary conditions make potential borrowers less creditworthy and also less willing to borrow on account of economic uncertainty. As bank balance sheets deteriorate, their capital gets overstretched, with fresh lending having a debt-restructuring bias rather than an investment bias.

As the global financial crisis deepened, it became abundantly clear that in an environment of fear monetary policy had become unusually impotent: transmission channels were failing because of frictions in the interbank market.[15] Banks were feared to be carrying indeterminate amounts of illiquid "toxic" assets both

13. George Melloan, "The Fed Has Trapped Itself on Rates," *Wall Street Journal* (Asia), June 2, 2011.

14. International Monetary Fund, *World Economic Outlook,* October 2008, chap. 5.

15. The Libor-OIS and Treasury eurodollar (TED) spreads are widely used measures of the health of interbank markets. Usually below 30 basis points in normal times, at the height of the financial crisis Libor-OIS spreads breached 400 basis points (www.bloomberg.com/apps/quote?ticker=.LOIS3:IND), while TED spreads breached 400 basis points (www.bloomberg.com/apps/quote?ticker=.TEDSP:IND); both were unprecedented.

on and off the balance sheet. This made other banks wary of lending to them.[16] There are, moreover, limits to the use of rule-based monetary policy, since interest rates cannot dip below zero. These limits are breached as inflation rates drop and the output gap grows, and there is little demand for money even when central bank discount rates are zero bound. Since banks were unwilling or unable to do so despite central banks' attempts to steepen the yield curve, central banks had to step in to compensate for the reduced velocity of money in circulation (on account of deleveraging) and to lower risk spreads. Ben Bernanke, current chair of the U.S. Federal Reserve and a historian of the Great Depression, postulates that in these circumstances central banks are constrained to resort to unconventional monetary policy, expanding money supply not only through its usual discount window but also through purchase of government (quantitative easing) or private (credit easing) assets, giving him the epithet of Helicopter Ben, as this is tantamount to dropping money by helicopter.[17] The U.S. Fed and the Bank of England did this on a massive scale to counter the effect of deleveraging on money supply.[18] By now, however, the financial crisis had morphed into a recession, and the demand for credit also declined sharply. With policy rates zero bound, and banks parking their excess funds, including the reserve money created by unconventional monetary easing, back with central banks, monetary policy in several advanced countries seemed to fall virtually into the kind of liquidity trap that Japan fell into the 1990s.

16. Estimates and definitions of toxic assets were rapidly revised upward, beginning with the original estimate of $150 billion made by Ben Bernanke in his August 2007 testimony before the U.S. Congress. The International Monetary Fund revised its estimate of potential write-downs of 2007–10 to a dramatic $4 billion in April 2009. Of this, assets originating in the United States accounted for $2.7 trillion, with the rest originating in Europe (whose banks had a big exposure to eastern and central Europe) and Japan. Nouriel Roubini's estimate was $4.6 trillion, of which $3.6 trillion was of U.S. origin. Nouriel Roubini, "The Dead Cat Bounce," *Business Standard,* April 15, 2009 (www.business-standard.com/india/news/nouriel-roubinidead-cat-bounce/355134). Although banks have since been able to mobilize capital against these toxic assets, and although their market has also risen and the IMF has consequently been progressively revising the losses downward, the current estimate of expected and realized bank write-downs nevertheless stood at $2.3 trillion in April 2010 (International Monetary Fund, 2010b). These estimates do not include provisions for losses arising out of possible sovereign defaults in southern Europe.

17. Ben Bernanke, chairman, Federal Reserve Bank, speech at National Economists Club, Washington, November 21, 2002 (www.federalreserve.gov/boardDocs/speeches/2002/20021121/default.htm).

18. Since $M * V = P * Q$ (where M = money in circulation, V = velocity of money, P = nominal price level, and Q = output), at any given money supply a reduction in the velocity of money would lead to a decline in nominal prices or a decline in output or both. Federal Reserve assets, which had increased gradually from $824 billion on November 10, 2004, to $942 billion on September 10, 2008 (before the Lehman crisis), rose dramatically by November 12, 2008, to $2.25 trillion. They stood at $2.6 trillion as of March 23, 2011, amounting to over 14 percent of GDP. The Bank of England gilt purchases in response to the crisis were also substantial, standing at 13.7 percent of the U.K. GDP at the end of the third quarter of 2010. The European Central Bank's unconventional policy was much more modest in scale, amounting to just 0.7 percent of GDP (www.federalreserve.gov/releases/h41/hist/h41hist1.pdf). See also International Monetary Fund (2010a).

The Federal Reserve's unorthodox monetary easing underwent several stages. Its balance sheet did not start expanding in the initial stages of the credit crunch from August 2007 until the collapse of Lehman Brothers. During this initial phase it off-loaded securities to accommodate the expansion of its liquidity facilities. It lent freely, at very low rather than penal rates, not only to fractional depository institutions, which it was bound to, but also to nondepositary investment banking. The time-tested Walter Bagehot rule had to be flouted, because financial institutions had become too big, interconnected, and systemically critical to be allowed to fail.

The Fed's balance sheet expanded sharply following the collapse of Lehman Brothers, as it stepped up both its liquidity support and purchase of facilities. It phased out its liquidity support facilities over the next twelve months but continued to purchase securities. It stopped buying securities in early 2010, swapping its maturing private securities (credit easing) for the purchase of government securities (quantitative easing). As monetary policy failed to gain traction, the Fed launched its ambitious $600 billion "QE 2" in November 2010. Its balance sheet now stands at three times what it was at the start of the financial crisis and is still expanding. Both the collapse of private demand and the continuing quantitative easing are keeping the yields on U.S. government securities low despite the government's huge borrowing program.

While credit easing gradually transferred much of the toxic assets from the private sector to the balance sheets of central banks, and quantitative easing supported the price of Treasury securities at a time of unprecedented fiscal easing, these could do little to stem the deleveraging under way. It is clear from table 3-3 that much of the liquidity injected by the Federal Reserve has not led to commensurate credit expansion, since most of this was parked with the central bank itself, as depository institutions just keep increasing their federal balances. In a true liquidity trap neither conventional nor unconventional monetary policy may work, as monetary policy transmission channels break down. In these circumstances macroeconomic policy is constrained to fall back on fiscal policy, as in Japan since the 1990s, and in the United States and much of the developed world recently, to pull the economy out of crisis.

FISCAL POLICY. While central banks across the globe deployed the full range of monetary tools at their command to compensate for, and revive, the sharp fall in credit and private demand, developed countries were compelled to rely increasingly on fiscal policy, even as revenues shrank consequent on negative growth. Fiscal policy was used both to support private demand and to stabilize the financial sector through capital injection and guarantees.

According to IMF estimates, overall fiscal deficits in advanced economies have increased dramatically, from –1.1 percent in 2007 to –8.8 percent in 2009 and to –8.4 percent in 2010; they are projected to be –6.7 percent in 2011. In emerging countries, which were less affected and are recovering faster, fiscal deterioration

Table 3-3. *Reserves of Depository Institutions with the U.S. Federal Reserve and the Monetary Base, 2007–11*
U.S. $ trillion

	Depository institution funds			*Monetary base*	
	Total	*Own*	*Required*	*Nominal*	*Effective (E-B)*
2007					
March	0.04	0.04	0.04	0.81	0.77
November	0.04	0.04	0.04	0.83	0.79
2008					
March	0.05	−0.06	0.04	0.82	0.77
November	0.61	−0.09	0.05	1.43	0.82
2009					
March	0.78	0.17	0.06	1.64	0.86
November	1.14	0.92	0.06	2.01	0.87
2010					
March	1.18	1.09	0.06	2.10	0.92
November	1.04	0.99	0.07	1.97	0.93
2011					
March	1.44	1.42	0.07	2.40	0.96

Source: U.S. Federal Reserve, *Statistical Release H.3. Aggregate Reserves of Depository Institutions and the Monetary Base* (www.federalreserve.gov/releases/h3/hist/).

was much more modest, rising from zero in 2007 to –4.9 percent in 2009 and to –3.9 percent in 2010; it is projected at –3.0 percent in 2011.[19]

The budget deficit figures only include up-front government financing and do not reflect the full extent of contingent liabilities taken on by advanced economies to support their financial sector through guarantees. The IMF estimates that such support to the financial sector, through liquidity provisions and guarantees, was equivalent to about 10–20 percent of global GDP.[20] The U.S. government has taken on potential liabilities of about $5 trillion (but in effect open ended) through a bailout of two government-sponsored enterprises in the housing sector, Fannie Mae and Freddie Mac. It is not clear at this point in time how much of this amount would eventually be passed on to taxpayers, as this would depend upon the extent of recovery in the prices of toxic assets.[21]

19. International Monetary Fund (2010a, p. 8; 2009b).

20. The higher figure is from International Monetary Fund (2009a), the lower figure ($6 trillion) from International Monetary Fund (2010a). It is not clear whether the latter figure includes the Fannie Mae and Freddie Mac guarantees.

21. Major Western economies are putting in place financial transaction and bank taxes to recoup some or all taxpayer costs. It is however still to be seen how such taxation measures fare or how much of the taxpayer costs would actually be recovered. The IMF's latest estimates, contained in its *Fiscal Monitor* of November 2010, are that the net direct cost is currently around $1 trillion.

The most aggressive fiscal stimulus package in overall size is that of the United States, whose budget deficit rose sharply from $161 billion (1.2 percent of GDP) in 2007 to $1.4 trillion (9.9 percent of GDP) in 2009 and to $1.3 trillion in 2010 (8.9 percent of GDP); it is projected to be $1.5 trillion in 2011 (9.8 percent of GDP), although it is rather optimistically (officially) projected to fall sharply thereafter.[22]

The IMF has come a long way from its rigid, ideological approach evident during the East Asian crisis, and these lessons are apparent in its policy guidance to the G-20 on the financial crisis.[23] It has moved away from recommending contractionary policies and fiscal rectitude in the midst of crisis and plummeting growth, which it had long advocated as the central feature of structural adjustment packages for developing countries. In a sense this marks a return to the core intellectual philosophy of its chief mentor, for it was Keynes who originally advocated the need for a global collective crisis response through an institution like the IMF, which could provide liquidity support to crisis-ridden countries to maintain full employment so as to maintain global aggregate demand in the face of contracting private demand.[24]

While most countries have so far been cautious in not repeating the cardinal policy sin of contractionary fiscal policies, which in the past aggravated the contraction in private demand, conventional wisdom on the efficacy of aggressive fiscal policies since the Great Depression is mixed.[25] There are at least two concerns, just as there were toward the second half of the 1930s. One is about the sustainability of these policies even over the medium term, on account of the sharp dip in revenue in downturns and the protracted recovery from financial crises that

22. According to the Congressional Budget Office (2010, app. I), U.S. public debt since the crisis will be double that of 2001. Projections by the International Monetary Fund (*World Economic Outlook,* April 2010) also show net public debt rising (from 42.3 percent of GDP in 2007 to 85.5 percent in 2015). Rising health care, social security, and defense costs could however change the equation, as pointed out in Cecchetti, Mohanty, and Zampolli (2010). According to their estimate, even by estimates that freeze age-related spending as a percentage of GDP at 2011 levels, debt-to-GDP could still rise to 200 percent in thirty years, much higher than crisis-riven Greece and on a par with Japan since the tsunami. Advanced countries have not had such high levels of public debt since World War II. The current economic structure is however vastly different than what it was in the 1950s, which witnessed a baby boom, a productivity boom, and a growth boom, all of which helped drive down public debt. In sharp contradistinction, Western societies are now aging and growing more slowly.

23. International Monetary Fund (2009–11), prepared for the G-20. The IMF could perhaps have learned this lesson sooner from one of its more successful structural adjustment programs in India in the 1990s. The success of India's stabilization program derived partly from its persistence in slipping in fiscal targets even as other reforms were carried through in a sequenced and calibrated manner.

24. Stiglitz (2002, p. 196).

25. The U.S. fiscal balance was positive at the onset of the Great Depression but turned sharply negative by the mid-1930s, leading to concerns about fiscal sustainability. The resultant fiscal tightening coincided with another sharp dip in GDP, which had, by 1937, almost recovered to the 1929 level.

typically keep growth rates low over an extended period. The second concern is about the ability of governments to fund large deficits without increasing interest rates, which could slow the recovery of private demand and also interfere with the smooth conduct of monetary policy.

With the return of fiscal policy to the macroeconomic high table, it is necessary to minimize the attendant pitfalls so that fiscal multipliers are greater than unity and interventions can quickly restore and sustain growth.[26] Apart from the three tests of the efficacy of fiscal interventions recently underscored by the IMF—namely, timeliness, targeting, and evanescence—in view of the extent of global integration and consequential policy spillovers, a fourth test of global coordination needs to be added to ensure that the recovery process leads to a more balanced and hence sustainable global economy: fiscal policy needs to be more aggressive in countries running current account surpluses than in those running deficits to rebalance global demand. The most aggressive use of fiscal policy, however, has so far been in the deficit countries, notably the United States.

Exit from Extraordinary Macroeconomic Policies

A protracted, tepid recovery in advanced markets, coupled with continuing deleveraging and dysfunctional financial markets, has induced the U.S. Federal Reserve to repeatedly reiterate that monetary policy would remain easy for an extended period. It has also made clear its intention to continue with nonconventional monetary policy as long as necessary. While the European Central Bank (ECB) does not usually make premature announcements of its policy stances, this is not likely to be very different from that of the U.S. Fed, especially since European governments have begun fiscal tightening in the wake of adverse market signals following the southern Europe sovereign debt crisis.

Advanced economies, struggling with the fiscal fallout of rising social welfare expenditures, found that they had limited fiscal space to sustain an aggressive countercyclical stance. Fiscal space is dynamic, since a sharp decline in private demand may create a short-term fiscal space despite the rapid fiscal slide that is a recurring feature of all episodes of sharp decline in growth on account of revenue shock and expenditure increase.[27] Indeed, even highly indebted governments may

26. This is a very contentious area. While government expenditure does increase GDP, the increase could be actually less than the amount spent. It is argued, for instance, that President Obama's ambitious $787 billion American Recovery and Reinvestment Plan not only failed to make any dent whatsoever on unemployment but that the latter climbed to levels higher than what the White House predicted it would have reached even without the stimulus. At best it shifted jobs from the private to the public sector; Veronique de Rugy, senior research fellow, Mercatus Center, George Mason University, testimony before the House Budget Committee, July 14, 2010. The design of the stimulus also matters; Romer and Romer (2007).

27. According to IMF estimates, the share of revenue loss and expenditure increase in the fiscal deterioration of fiscal balances in advanced G-20 countries is about the same; International Monitary Fund, *Fiscal Monitor,* May 14, 2010, p. 14.

be able to increase their borrowing in such circumstances without unduly impacting interest rates. The absence of such market signals during severe downturns is akin to a breakdown of the immune system in the body, as a result of which severe infections may persist without the usual red flags, such as fever. However, as private demand recovers and interest rates rise, the stock of debt could become even more unsustainable than it was before the crisis, making for a potentially inflationary outcome.[28] Over the medium to long term, fiscal space is therefore merely the flip side of debt sustainability.[29]

In view of the dangerous buildup of public debt, the IMF has advised the G-20 that fiscal exit should precede monetary exit.[30] The problem with this advice is that, even as corporates are able to tap capital markets and interbank markets (Libor-OIS and TED spreads) have normalized, credit channels are still dysfunctional in advanced markets.[31] While corporate bond markets have bounced back, securitized and commercial paper markets, which provided a substantial share of financial intermediation before the crisis, have still to recover, while banks continue to deleverage and park huge amounts of their own funds with central banks.[32]

Several developed countries, in particular the United States, may already be in a liquidity trap, and hence, instead of seeding credit markets, easy monetary policy is diverting excess liquidity to Asia, where asset prices are appreciating on the back of a robust dollar carry trade. It is difficult to see how the burden of stimulating Western economies can shift back from fiscal to monetary policy in a hurry. Advanced economies could well be trapped in some sort of a Catch-22 situation, with financial markets and the economy constraining fiscal exit and financial markets becoming dependent on continued fiscal expansion. It is fairly

28. This is the modern version of debasing currency resorted to by premodern monarchs for fiscal expansion or debt repayment and is an unfortunate downside to the movement away from the gold standard and its replacement by fiat money. This is why in macroeconomic terms inflation is nothing but another form of tax. Before the 1930s governments had no alternative to taxing their way out of public debt. In real life, however, there could be special conditions under which governments need neither default nor inflate their way out, despite theoretically unsustainable debt levels, on account of the fiscal space created by contraction in private demand. This was the case of Japan, where increase in public debt was countervailed by decline in investment. It is also the case of the issuer of the global reserve currency (that is, the United States), where the rest of the world has excessive savings, which generates a demand for holding increasing amounts of the reserve currency.

29. Sovereign debt sustainability is perhaps best captured through the Domar equation, under which the debt-GDP ratio can be stabilized if either of the two conditions are met: an increase in nominal GDP exceeds interest payments (that is, the Domar gap is positive); or the primary budget deficit (fiscal/budget deficit minus interest payments) is nominal (that is, the Domar gap is negative). If neither of these conditions is met, there is imminent danger of a runaway debt trap.

30. International Monetary Fund (2009c).

31. See www.bloomberg.com/apps/cbuilder?ticker1=.TEDSP%3aind.

32. Federal Reserve, Statistical release (www.federalreserve.gov/releases/h3/current/h3.htm).

clear that use of both fiscal and monetary tools has been exhausted, and policymakers will be hard pressed to come up with an effective policy response to either a revolt in sovereign bond markets or a second dip. Indeed, policymakers are now being called upon to address the adverse fallout of overflogging macroeconomic policy tools.

While increase in public debt is the usual aftershock of deep recessions and financial crises, structural deficits in several advanced countries were already rising before the crisis on account of aging-related expenditures. Moreover, the failure of transmission channels of monetary policy, the first line of macroeconomic response to downturns, placed a disproportionate burden on fiscal policy. There are now fears that cyclical deficits and anemic growth could push countries into a debt trap unless long-standing social compacts are renegotiated and structural reforms to raise growth kick in quickly.

Governments can either grow their way out of high levels of public debt (as in the aftermath of World War II in advanced countries, when the overall growth environment was good, and as India is at present doing) or inflate their way out (as in the 1970s, following successive oil price shocks). Since long-term growth prospects in most advanced countries look shaky, market fears regarding future inflationary outcomes will not dissipate easily.

The IMF expects policymakers to navigate a narrow, Goldilocks, policy zone that is neither too early (which would derail the recovery) nor too late (which would provoke market revolt). Emerging markets facing inflationary pressures should start exiting, which they are mostly doing, and advanced countries should exit in phases, depending on each country's fiscal and market pressures. The United States, the issuer of the global reserve currency, with few market pressures on its borrowing program, seems to echo the IMF view. Major European countries, led by the OECD and Germany, at the epicenter of the potential crisis, are in favor of a front-loaded fiscal exit.

Yet while long-term fears are real, and some advanced economies may indeed be in a debt trap, some of the short-term fears are overblown. Even as sovereign borrowing spreads have risen in southern Europe, they have fallen in major advanced countries during the same period. Paradoxically, despite being insolvent, a number of advanced sovereigns do not have a liquidity problem. Collectively, sovereign borrowing costs and liquidity problems can worsen only if private demand is on track. Markets fears regarding future inflation and sovereign default are countervailed by the current need to seek refuge in safe havens. Indeed, in such circumstances rising sovereign borrowing costs is something to look forward to, akin to a canary in the gold mine signaling the revival of private demand and the time for fiscal exit.

Therein lies a second paradox, what Keynes called the paradox of thrift. Historical experience indicates that it is indeed possible to combine fiscal consolidation with growth, especially where there is greater reliance on expenditure control

than on tax increases.[33] Implementing structural reforms could also raise growth potential, making debt levels more sustainable and exercising a calming influence on markets. These medium-term issues are being addressed by the G-20 through their ambitious Framework for Strong, Sustainable and Balanced Growth.

However, it is highly unlikely that it would be possible to have fiscal consolidation during a severe and synchronized economic downturn, more so since monetary policy transmission channels are still clogged. It is difficult to compress expenditure commensurate with the compression in revenue, especially since this has to partly substitute for the steep contraction in private consumption and investment. Even so, past experience indicates that most of the fiscal deterioration in a downturn is through declines in revenue rather than through increases in automatic stabilizers or discretionary stimuli.

If there are cautionary lessons to be learned from Greece, which has recently been penalized by the market for lack of fiscal credibility, there are also lessons to be learned from Japan in the 1990s and the United States in 1937, when premature fiscal tightening resulted in both a deflationary spiral and an explosion of public debt. An undeniable virtue in normal times, fiscal chastity is of dubious value in deep recessions. Advanced countries could perhaps seek solace from the ancient Christian scholar, St. Augustine of Hippo, who famously beseeched the Lord to make him chaste, but not yet.

The situation in developing countries, especially in Asia, that have weathered the crisis far better than developed countries and accelerated the recent trend in convergence in per capita incomes between the West and Asia, is different. Unlike advanced countries, emerging markets entered the crisis with improved fiscal positions. Crisis measures in Asian economies have by and large been orthodox, focused on tried and trusted fiscal and monetary easing. Since credit markets did not freeze, and financial institutions did not collapse, there was no need to resort to either a bailout of the financial sector or the adoption of an unconventional monetary policy. Conventional measures have by and large worked, for the global recovery is led by Asia.

For this reason exit policies are being implemented first in Asia. However, unlike Western markets, where fiscal exit may precede monetary exit, the sequence could be reversed in Asia, since portfolio shifts and the sustained easy and unorthodox monetary stance in the former is drowning the latter in liquidity through a surge in capital flows and robust fiscal parameters.[34] Continuing low

33. BCA Research, "Europe: A Historical View of Fiscal Reform," *Daily Insight,* May 4, 2010 (www.bcaresearch.com/public/story.asp?pre=PRE-20100504.GIF).

34. This is so even in China, which has had the most aggressive fiscal package among developing countries. China announced a 4 trillion yuan ($585.5 billion) stimulus package in November 2008 and subsequently proposed a budgeted fiscal deficit of 950 billion yuan ($139 billion) for 2009, a record high in six decades and nearly three times the last record of 319.8 billion yuan, set in 2003. The deficit however amounted to only about 3 percent of GDP.

interest rates in developed countries could however change the outlook for monetary tightening in emerging markets, as this could aggravate capital inflows. They seem to be entering into the grip of the impossible trinity: a fixed exchange rate, free capital movement, and an independent monetary policy.

India and the Global Financial and Economic Crisis

The Indian economy was in great shape before the onset of the credit crunch in Western markets. Indeed, growth had either accelerated to above trend or, more arguably, was showing signs of shifting upward because of structural shifts in domestic savings and investment (figure 3-1).

Riding on the back of robust revenue growth consequent on high growth rates and a vastly improved and reformed tax structure that made revenues increasingly sensitive to shifts in growth, the consolidated fiscal deficit of the federal and state governments fell sharply, from around 10 percent in 2001–02 to 4.17 percent in 2007–08.

India on the Eve of the Credit Crunch

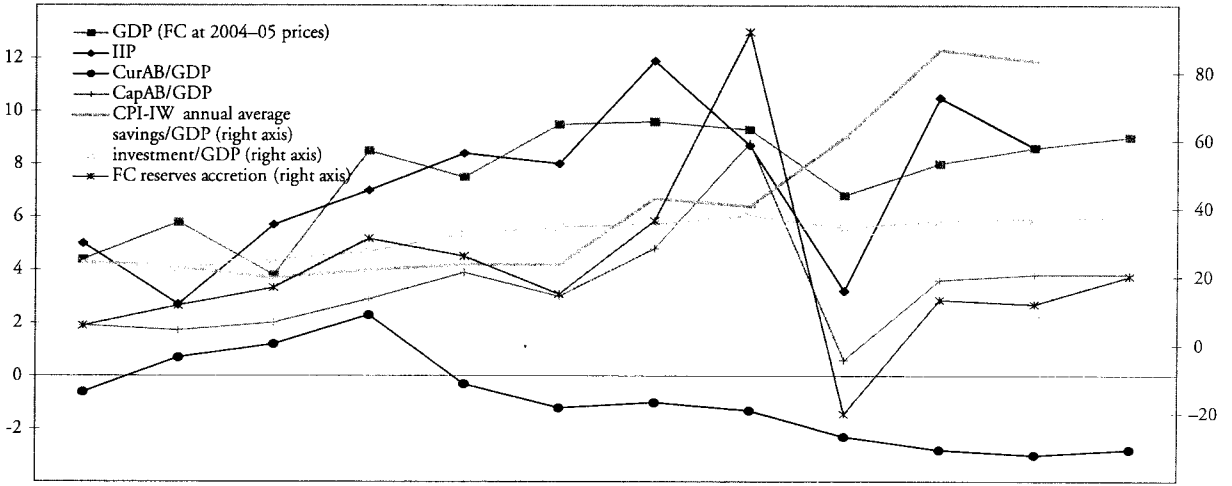
In the months leading up to the credit crunch there was an animated debate over whether the Indian economy was overheating—having hit its long-time nemesis, the infrastructural bottleneck—or whether it was simply importing inflation through rising commodity prices and capital flows, as the central bank repeatedly tightened monetary policy in response to rising consumer prices.[35]

Reeling under the twin shocks of tightening monetary policy and rupee appreciation consequent on a tsunami of capital inflows, growth rates had started to show a slightly downward trend, led by a downward-sloping industrial production index, when the first waves of the financial crisis hit India. However, Indian corporates had access to domestic equity and external commercial borrowing to soften the impact of tightening monetary policy on their borrowing costs. As a result, investment did not stall, although it dipped slightly in the second half of 2007–08. The commodity shock associated with the first-round impact of the financial crisis amplified the downward trend through an added inflationary shock.

Unlike Western markets, the shadow banking system was not a major source of funding in emerging markets, including India. Financial regulation in India was based on the antediluvian view that the financial sector should be anchored in the real economy and that financial transactions, particularly derivatives, should be based on real-economy exposures and assets. Sensing a financial boom in property prices, the Reserve Bank of India (RBI) moved to raise capital adequacy margins to cool asset prices in the run-up to the global financial crisis.

35. Both concerns have resurfaced recently.

Figure 3-1. *Macroeconomic Fundamentals, India, 2000–11*



Source: Government of India, Ministry of Finance, Department of Economic Affairs, Economic Division, Economic Survey 2010–11, February 2011 (and earlier issues for historical data). Data for 2011–12 are projections from the Economic Advisory Council to the Prime Minister, Review of the Economy 2010–11, New Delhi, February 2011 (http://eac.gov.in/reports/ecoout_1011.pdf).

About 70 percent of banking assets in India are in the public sector. Since Indian banks were well capitalized, way above the Basel-II minimum norms, and had very limited exposure to the U.S. mortgage market (directly or through derivatives) or to failed or stressed financial institutions, the impact of the U.S. subprime crisis on their balance sheets was marginal. A study undertaken by the RBI in September 2007 shows that no Indian or foreign bank had any direct exposure to subprime markets in the United States or elsewhere, even though there was a small exposure to some complex and illiquid financial instruments such as collateralized debt obligations by some private sector banks, which in turn had subprime exposures. These banks suffered mark-to-market losses caused by the widening of credit spreads on these complex structured instruments.[36] The additional provisioning requirements toward mark-to-market losses were however insignificant relative to the size of their balance sheets and profit levels, and there were few concerns from the systemic point of view.

INITIAL IMPACT OF THE CREDIT CRUNCH. Since India has a huge oil deficit, the initial impact of the credit crunch was ambiguous, as the negative shock arising out of booming commodity prices was tempered by the surge in capital inflows, which led to a sharp appreciation in the value of the Indian rupee and an unprecedented bull run in the stock market (figure 3-2).[37] The policy response was to let the rupee appreciate in a smooth and orderly manner and to cushion most of the oil price shock by widening the fiscal deficit to ensure macroeconomic stability.[38] The sharp increase in the rate of reserve accretion created problems of monetary management and, along with the spike in commodity prices, added to inflationary pressures that constrained the central bank to persist with a tight monetary stance, even as the economy showed signs of weakening. While growth dipped by about 1.5 percent from the arguably above-trend growth in the preceding few quarters, the economy nevertheless chugged along at an impressive 7.75 percent in the first half of fiscal year 2008–09.

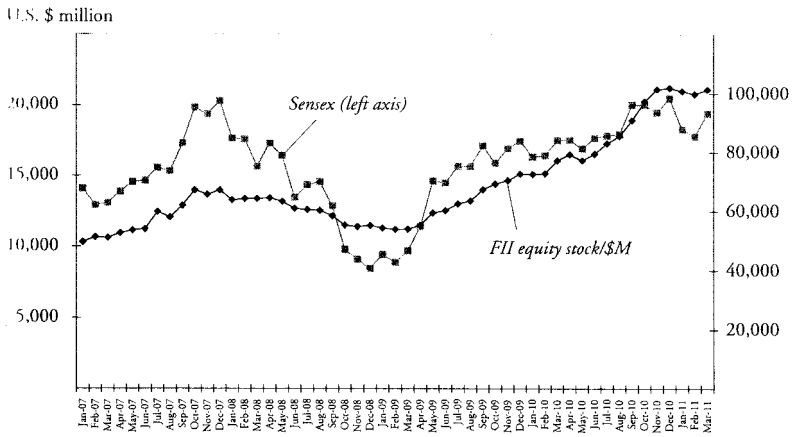
The decline in commodity prices and capital flows that began in the second half of 2008 escalated in the period following the Lehman crisis. This escalation was primarily caused by a foreign equity sell-off, a flight to quality, and the consequential repricing of risk. Indian financial institutions thus found it increasingly

36. Shri V. Leeladhar, deputy governor, Reserve Bank of India, speech at Kolkata, November 24, 2008 (www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=404).

37. While the figure shows an unmistakable direct correlation (coefficient of 0.73) between FII stocks and the Sensex between January 2007 and March 2011, asset prices rose faster than FII stocks before the financial crisis, whereas in the period following the crisis asset prices tended to lag FII stocks, indicating differences in confidence levels or animal spirits.

38. As things turned out, this quickly filled the fiscal space created in the last few years, thereby constraining the fiscal policy response to the second-round impact of the financial crisis, when growth threatened to fall sharply.

Figure 3-2. *Foreign Portfolio Stock and Asset Prices (Sensex), India, 2007–11*



Source: Securities and Exchange Board of India, Trends in Investments, Foreign Institutional Investors Investments (www.sebi.gov.in/Index.jsp?contentDisp=Database); Bombay Stock Exchange, Archives—Indices. Sensex (www.bseindia.com/histdata/hindices.asp).

difficult to fund themselves cheaply overseas.[39] This secondary impact was transmitted to India through the pervasive sense of foreboding in domestic financial markets and the destruction of demand in Western markets.

SECOND-ROUND IMPACT OF THE CREDIT CRUNCH. Just as sharp appreciation of the rupee moderated the impact of the commodity bubble on the current account during the first-round impact, the sharp depreciation of the Indian rupee moderated the benign impact of softening oil prices in the second stage. It was mostly on account of a sharp reversal in the capital account that India's foreign currency reserves declined by $58 billion (or by about a fifth, from $299.2 billion) in fiscal year 2008–09 as of March 27, 2009, through a combination of outflows and revaluation.[40] If not for the cushion provided by the recent virtuous cycle of high growth, fiscal correction, and reserve accretion, the impact of the global financial crisis on India would have been far worse.

39. The pressure to square positions in overseas money markets in the immediate aftermath of the Lehman crisis led to a sharp rise in overnight call money rates in the domestic money market, constraining the RBI to inject large amounts of liquidity to ensure that call rates moved back within the policy rate corridor; Shah and Patnaik (2010).

40. Reserve Bank of India (1998–2011). Most of this decline was on account of revaluation of reserves denominated in various currencies. The largest outflow was on account of foreign institutional equity investors (FIIs), who took out a net of $12.1 billion between April 1, 2008, and March 31, 2009 (www.sebi.gov.in/Index.jsp?contentDisp=Database). Some of the decline was also on account of banking capital and the inability to roll over short-term debt, especially trade finance.

The international financial crisis removed the cushion that cheap external funding and equity provided against monetary tightening at home. While portfolio flows started reversing sharply from the last quarter of 2007, all forms of capital flows showed a declining trend during the third and fourth quarters of 2008, including short-term debt flow, much of which was used to finance international trade. The decline in overseas capital flows resulted in additional demand for domestic sources of funding in the near term to fill in the deficit. Practically the entire burden of adjustment fell on the banking sector, as resources raised from the domestic capital market fell sharply on account of risk aversion and tight liquidity.[41] As a result, aggregate resources (including corporate debt, initial public offerings, public and rights equity issues, private placements, and overseas issues) raised from the capital market in 2008–09 declined by 52.4 percent over 2007–08.[42]

Excessive liquidity consequent on protracted monetary easing and deleveraging in Western financial markets, combined with the revival of robust growth in emerging markets, has led to the revival of capital flows to select emerging markets, including India. By the fourth quarter of 2009, FII stocks were back to their all-time highs of late 2007, with consequential appreciation in asset markets, and have indeed increased thereafter as a result of unconventional monetary policy, such as quantitative easing, in Western markets (figure 3-2). India has a big reserve currency buffer ($303 billion as of March 25, 2011) against sharp and sudden stops or reversals in capital flows, such as what occurred in the aftermath of the Lehman Brothers crisis.

India nevertheless needs capital inflows on a continuing basis to finance its growing current account deficit, which has risen in tandem with rising energy prices, since India has a large energy deficit. Consequently, its currency has not experienced upward pressure like that experienced by the currencies of emerging economies that run current account surpluses or that are large commodity exporters, even though capital inflows in recent quarters exceeded the current account deficit. Capital inflows are critical for India's return to a high-growth trajectory not only for funding the current account deficit but also for corporates' access to cheap capital, as the cost of domestic sources of funding rises with monetary tightening. In the ultimate analysis, however, a return in India to trend growth on a sustainable basis also hinges critically on the revival of overseas demand.

Indian Macroeconomic Policy Response

Consistent with the G-20 consensus—reflected in the Washington declaration of G-20 heads of state issued in mid-November 2008 and in subsequent commu-

41. Apart from factors mentioned in the preceding note, this was also on account of the sharp increase in government borrowing.

42. Saikat Neogi, "Some Data for RBI to Chew On," *Financial Express*, New Delhi, April 17, 2009.

niqués, that greater global policy coordination was necessary to effectively address the global financial crisis—the RBI and the government of India acted in a concerted manner through major monetary and fiscal interventions to neutralize the adverse symptoms of the financial turmoil by improving liquidity and stimulating demand and investment.

MONETARY POLICY. The first-round monetary impact of the subprime financial crisis on India was to put the central bank in the grip of the impossible trinity: simultaneously trying to stabilize growth and maintain exchange rate stability in the face of rising capital inflows. With no explicit targeting of inflation or the exchange rate, India kept turning from one goal to the other, even though both were effectively determined by exogenous factors.

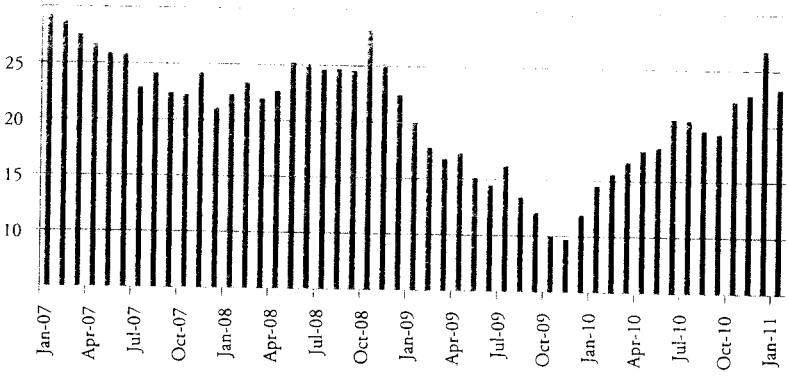
The most palpable result of the second-round impact of the international financial crisis on the domestic economy, which saw a sharp reversal in capital flows, was loss of both rupee and dollar liquidity for reasons that were very different from those in Western markets. Whereas the loss of liquidity in Western markets was on account of heightened perceptions of counterparty risk, rapid deleveraging, and the breakdown of transmission channels of monetary policy through the banking system, the loss of liquidity in India derived from the combination of capital flight, the inability of banks and especially corporates to fund themselves cheaply overseas and through equity markets at home outside the (relatively high-cost) domestic banking system, a growing current account deficit, and a ballooning fiscal deficit crowding out private borrowing.

Unlike Western countries, which seemed to be in the grip of a liquidity trap and where even quantitative and credit easing lost traction, monetary policy continued to be an effective macroeconomic tool in emerging economies like India.[43] The entire burden of combating recessionary forces did not, therefore, fall on fiscal policy. Indeed, the primarily publicly owned domestic banking system partially substituted for the financing space vacated by overseas borrowing and domestic equity finance. As nonbank sources of credit started drying up, bank credit actually expanded in the immediate aftermath of the Lehman crisis, until a downturn in the real economy lowered private demand and, consequently, the demand for credit (figure 3-3). In sharp contradistinction to Western economies, the channel of transmission of contagion was more from the real economy to the financial sector rather than the other way round.

In response to tightening domestic liquidity, reflected in hardening overnight rates, the central bank rapidly shifted its policy stance from tight to easy. It moved to sharply lower key policy rates and inject liquidity into the banking system. It also eased external commercial borrowing and investment policies and raised

43. Thus gross nonfood credit by scheduled commercial bank credit grew by 18.1 percent in 2008–09, only slightly lower than the 22.3 percent of 2007–08; Reserve Bank of India (2010a, table 4.5).

Figure 3-3. *Credit Extended by Scheduled Commercial Banks, 2007–11*



Source: Reserve Bank of India, Commercial Bank Survey (www.rbi.org.in/scripts/BS_VIEWBulletin.aspx).

deposit rates on nonresident Indian deposit schemes to reduce the friction in capital inflows. The central bank cut the benchmark overnight lending rate by 425 basis points, from 9 percent to 4.75 percent between July 29, 2008, and March 5, 2009, and also lowered the quantum of bank reserve assets to be parked with the central bank. In addition, it injected liquidity equivalent to about 9 percent of GDP by lowering bank cash reserve and liquidity requirements, unwinding sterilization measures by buying back government securities from the market and extending special refinance and liquidity facilities.[44] If these measures did not result in a commensurate increase in bank lending, this was not on account of any liquidity trap but because of renewed access to other sources of funds outside the domestic banking system and because bank credit is a lagged indicator.[45] It has since picked up smartly following the recent uptick in growth (figure 3-3).

44. Reserve Bank of India (2009b, para. 55).

45. Morgan Stanley, *India EcoView*, January 22, 2010, p. 12. Credit growth declined sharply in 2009–10 despite monetary loosening. But since this decline was accompanied by an increase in growth, it appears that corporates had accessed other sources of funding, even as banks increased their holdings of government debt (given the sharp increase in government borrowings) and also parked funds with the central bank. While nonfood bank credit decelerated sharply from its peak of over 29 percent in October 2008 to a little over 10 percent in October 2009, before picking up slightly to over 14 percent by mid-January 2010, the total flow of financial resources to the commercial sector as of January 15, 2010, was unchanged from the corresponding period of the previous year. Reserve Bank of India (2010b); D. Subbarao, governor, Reserve Bank of India, press statement (http://rbidocs.rbi.org.in/rdocs/PressRelease/PDFs/IEPR1052TQR.pdf). There are of course also residual issues regarding the transmission of monetary policy in view of illiquid corporate bond markets and key administered deposit rates. This is one reason why the central bank still uses such monetary aggregate policy tools as the statutory liquidity ratio and the cash reserve ratio, in addition to such benchmark short-term rates as the repurchase agreement and the reverse repurchase agreement.

FISCAL POLICY. Unlike Western economies, there was no need in India for fiscal intervention to support the financial sector. Fiscal policy basically worked in tandem with monetary policy to counter the contraction in private demand. Despite limited fiscal space, the Indian (central) government announced a series of major stimulus packages aggregating a net outgo of about $35 billion (Rs 160,000 crore) through three supplemental parliamentary grants, equivalent to over 3 percent of GDP, over and above the budgeted fiscal deficit of 2.5 percent, for 2008–09.[46] The fiscal stimulus instruments included enhanced outlays on social protection and employment-generation schemes, infrastructure, trade finance and promotion, and indirect tax reductions.[47] In addition state governments were given headroom for a further fiscal stimulus equal to 0.5 percent of GDP in 2008–09 and another 0.5 percent in 2009–10. The fiscal stimulus instruments also liberalized norms to improve access to resources and liquidity, both domestically and externally through equity and debt. A new automatic stabilizer, the National Rural Employment Guarantee Scheme (NREGS), made it possible to immediately ramp up consumption expenditure among the poorest sector of the population, where the multiplier impact on growth is high. Outlays on this automatic stabilizer were ramped up in the revised estimates for the 2008–09 budget, from 0.6 percent of GDP to 1.2 percent.[48] These elevated levels were maintained in 2009–10 as well.

At the onset of the global financial crisis, the central government's debt-to-GDP ratio was just above 60 percent, far higher than that of the United States, which was around 40 percent. It would therefore appear that India had far less cyclical fiscal space than the United States. Its (combined central and state governments) fiscal deficit of 4.2 percent (excluding off-balance-sheet liabilities, which would raise this figure) was also much higher than that of the United States. However, since India's trend, and hence revenue, growth is much higher than that of the United States, it is able to sustain higher levels of debt when assessed through the Domar debt sustainability equation. Fast-growing developing countries can sustain much higher levels of fiscal deficit and public debt than

46. The consolidated fiscal deficit of the central and state governments had gradually been reduced from around 10 percent of GDP in 2001–02 to below 6 percent by 2006–07; see Economic Advisory Council (2008, p. 50). This widened to 8.5 percent in 2008–09, and to 9.5 percent in 2009–10, excluding liabilities incurred off balance sheet. The consolidated fiscal deficit in 2010–11 is estimated to be 8 percent. India also has a huge public debt overhang, equivalent to 76.6 percent of GDP in 2009–10, the lagged effect of several years of high fiscal deficits, making its fiscal position one of the weakest among emerging market economies.

47. In addition, the Indian government liberalized norms, disbursed an additional $5.2 billion to help problems caused by the credit crunch, and helped recapitalize banks to enable them to expand lending. The World Bank (2009) observes that Brazil and India were the most proactive emerging market economies in trying to fill financing gaps for public-private projects.

48. This was part of the three supplementary demands for grants passed by the national parliament.

the European Maastricht Treaty norms of 3 and 60 percent, respectively. It is for this reason that India has been able to run relatively high levels of fiscal deficit and to sustain high debt-to-GDP ratios without inflationary consequences or adverse economic growth. Prudently used, this fiscal space can be used to fund the huge infrastructural and developmental backlog in such countries. However, if this space is used for increasing government consumption rather than investment, it might be difficult to sustain high growth rates over the medium to long term, and the space could rapidly shrink.

The fiscal space of fast-growing developing countries is constrained not so much structurally as by the competing demands of the private sector on the debt market. Excessive borrowing by government can crowd out private demand and exert an upward pressure on interest rates, which can lower growth and, consequently, compress fiscal space. If India's relatively high fiscal deficits have not had a significant upward pressure on interest rates, this has been largely on account of large-scale monetization consequent on the central bank's intervention in foreign currency markets and open-market operations (buying government debt in the secondary market), which would be considered a species of quantitative easing in developed markets. High levels of government borrowing, therefore, have been accompanied by quantitative easing even in non-crisis situations, as there is no firewall between fiscal and monetary policies.

The scale of fiscal expansion to finance various stimulus measures can be gauged from the fact that the government's net borrowings almost doubled in 2008–09 and rose by a further 70 percent in 2009–10. Market borrowings in 2010–11 declined slightly relative to 2009–10 only on account of a big, one-time, windfall through the auction of government assets (2G spectrum telecommunication licensing fees). The market was initially able to absorb such high levels of government borrowings without putting upward pressure on interest rates on account of the sharp contraction in private demand, the front-loading of the government's borrowing program by the central bank, and the latter's open-market operations through off-loading its stock of government securities, mostly accumulated through sterilizing the huge capital inflows in the period leading up to the crisis.[49] However, as private demand returns and the central bank's stock of government securities is depleted, the central bank may have to step up the scale of its quantitative easing program, including unsterilized interventions in the foreign exchange market, to support the government's borrowing program if the deficit is not reined in.

Fiscal expansion sustained growth during the crisis, as private consumption, exports, and investment fell (table 3-4). The increase in government final consumption expenditure partly compensated for this decline, beginning in the third quarter of fiscal year 2007–08, to prop up demand and growth. The table also

49. Reserve Bank of India (2009a); Economic Advisory Council (2009).

Table 3-4. *Quarterly Expenditure Growth Rates, India, 2007–11*[a]

Percent

	2007–08				2008–09				2009–10				2010–11			
Item	*Q1*	*Q2*	*Q3*	*Q4*	*Q1*	*Q2*	*Q3*	*Q4*	*Q1*	*Q2*	*Q3*	*Q4*	*Q1*	*Q2*	*Q3*	*Q4*
PFCE[b]	9.5	8.3	9.8	9.3	10.0	7.8	6.7	6.6	7.3	8.5	7.0	6.6	8.9	8.9	8.6	8.0
GFCE[c]	−0.4	12.2	4.1	20.9	−1.6	2.0	50.9	−2.8	21.3	37.5	9.6	6.1	6.7	6.4	1.8	5.0
Investment[d]	19.7	20.7	16.6	12.9	−1.1	0.5	−5.8	−5.2	6.1	7.1	15.2	25.3	17.4	12.1	8.2	2.2
CAB[e]	19.2	20.2	15.1	11.6	4.1	5.2	−2.0	−0.6	−0.4	0.3	8.7	19.2	17.4	11.9	7.8	0.4
Exports	2.6	0.2	13.5	7.3	29.3	28.8	8.1	−3.8	−12.9	−13.7	−3.9	9.9	11.5	10.2	24.2	24.7
Less imports	1.8	1.2	12.0	25.7	33.9	45.9	23.7	−5.8	−8.1	−15.8	1.3	19.3	15.2	11.3	0.5	10.6

Source: Government of India, Ministry of Statistics and Programme Implementation, press releases and statements (http://mospi.nic.in/Mospi_New/upload/mospi_press_releases.htm; http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82).

a. In constant 2004–05 market prices; growth over corresponding quarter of the previous year.

b. PFCE = Private final consumption expenditure.

c. GFCE = government final consumption expenditure.

d. Investment = Gross fixed capital formation + change in stock + valuables.

e. CAB = current account balance (exports less imports).

shows a revival in investment beginning in the second half of 2009–10 and private consumption from the first quarter of 2010–11, just as fiscal exit started. Near-quarters data, however, indicate that fiscal exit has been staggered, and while private consumption and exports are holding up, there is a sharp dip in investment (and industrial production), weakening consumption, and an upward pressure on interest rates, raising fears of crowding out.[50]

The fiscal stimulus seems to have been effective partly because it worked in tandem with monetary policy but also because it was both timely and targeted. Government fiscal expansion through additional outlays on subsidies, pay revision, a farm loan waiver, and expanded coverage of rural employment guarantee schemes—although these were not intended as fiscal stimuli—nevertheless got under way just as private demand was contracting. These expenditures were also targeted at consumption, where lead time in impact is minimal. However, for fiscal policy to be effective over the medium to long term, interventions also need to be temporary. Political exigencies apart, fiscal exit may be easier, since much of the fiscal expansion was on account of one-off expenditures, the sharp increase in revenues consequent on higher growth, and in particular through the inflation tax, which has seen an unusually large increase in nominal GDP.[51] Nevertheless, further fiscal correction hinges crucially on the policy response to rising food and oil prices and on the political resolve to contain consequential subsidies.

Indian Growth Prospects Going Forward and Exit Policies

After expanding by 9 percent in 2007–08, Indian economic growth declined to 7.8 percent and 7.5 percent, respectively, during the first two quarters of 2008–09 and fell further to 6.1 percent and 5.8 percent, respectively, in the last two quarters, yielding an annual real growth rate of 6.8 percent. Notwithstanding the sharp recession in its main export markets, India remained one of the fastest-growing economies at the peak of the global crisis.[52] This outcome can be traced to India's greater reliance on domestic demand, buoyed by a surge in rural demand consequent on a shift in terms of trade in favor of agriculture and to its timely fiscal response, including a new automatic stabilizer in low-income rural areas in the form of NREGS.[53]

50. Investment includes public investment. The share of public sector investment in total investment rose sharply in 2008–09 to compensate for the decline in private investment. Government of India, Ministry of Statistics and Programme Implementation, press release, January 29, 2010, p. 34 (http://mospi.nic.in/mospi_press_releases.htm).

51. On one-off expenditures, see Rao, "Timing the Exit Right." Some of these expenditures, such as farm loan waivers, payment of arrears on upward revisions in public sector salaries, and cleaning up accumulated off-balance-sheet liabilities, are self-limiting.

52. The United States accounts for 15 percent of India's merchandise exports (compared to 20 percent in the case of both Brazil and China), while western Europe accounts for another 23 percent. The dependence of the OECD, and particularly the U.S. market, on services exports (through which India mostly plugs its yawning merchandise trade deficit), is even greater.

53. Dev (2009).

As pointed out earlier, the cautious approach to financial regulation and the opening of the capital account, along with the abundant cushion of foreign exchange reserves, insulated the financial sector from the contagion emanating from the global financial storm, which was mostly limited to a sudden, short-term, reversal of capital flows. Growth rates picked up smartly, to 8.0 percent in 2009–10 and 8.6 percent in 2010–11 (advance estimates), on the back of a strong revival in industrial growth, exports, and investment, with the weak recovery in external demand remaining the chief constraint on return to trend growth.[54]

The return to growth since the third quarter of 2009 means that major OECD countries are technically out of recession, but the recovery is far from assured. While aggressive fiscal and monetary policies may have pulled the global economy from the brink, there is negative fallout from the protracted use of these policies; the failure to absorb the consequential liquidity appears to be spilling over into select emerging markets, on the one hand, and inflating asset bubbles, including commodities that have emerged as a distinct asset class, on the other. Thus the stock of foreign institutional investment in India has risen by over 50 percent since the middle of 2009. Rising commodity prices threaten to derail both the slow recovery in developed countries and the robust recovery in developing countries. The uptrend in global commodity prices, especially that of energy—a big deficit in India—is having a particularly deleterious impact on the Indian economy by fueling inflationary expectations and staggering the revival of savings and investment.[55] The policy dilemmas are unforgiving: if high commodity prices are passed on to consumers, the consequential adjustment will reduce private savings; if they are not, government dissavings will increase. The negative fallout on investment is compounded by unanchored inflationary expectations and continued monetary tightening. Declining investment also means that trend growth has also shifted south, at least for the time being. To get this back up again policymakers need to turn to structural policies and reform rather than rely only on macroeconomic stimulus that can never be a long-term solution to declining potential growth.

54. Even though India is not as dependent on external markets as several other developing countries, notably China, this cannot but have a dampening effect on growth. In absolute terms this dependence has risen sharply over the last decade, with its two-way merchandise trade (merchandise exports plus imports) increasing from 21.2 percent of GDP in 1997–98, the year of the Asian crisis, to 34.7 percent in 2007–08. India's financial integration with the rest of the world has increased even more steeply, with gross current and capital account flows more than doubling, from 46.8 percent of GDP to 117.4 percent over the same period. Duvvuri Subbarao, governor, Reserve Bank of India, speech at New Delhi, March 26, 2009 (http://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/IGFCCII26309.pdf). The chief constraint on sustaining and increasing trend growth, however, continues to be infrastructural bottlenecks.

55. The roots of the current high rates of inflation, which mostly lie in agricultural commodities, are hotly debated. Both domestic supply and demand factors are cited as causal factors, as are the spillover effects of excessive global liquidity, since inflation has risen almost across the board in emerging markets.

Unlike Western economies, monetary exit in India preceded fiscal exit. The Reserve Bank of India was one of the first central banks, after the Reserve Bank of Australia, to signal that it would start exiting from monetary easing, even though it kept benchmark interest rates unchanged. The actual exit however began in its third quarterly review in January 2010, when the RBI raised the cash reserve ratio by 75 basis points, from 5 percent to 5.75 percent, in two stages. With food prices rising sharply and growth picking up, the RBI started raising key policy rates in steps. The repurchase rate—the rate at which the central bank lends overnight to scheduled commercial banks—has been raised, in steps, by 325 basis points, from 4.75 percent to 8 percent (as of end July 2011). The reverse repurchase rate, at which it absorbs excess liquidity overnight from banks, rose even more steeply, to 7 percent, reducing the policy corridor from 125 basis points to 100 basis points and signaling that the central bank has moved into liquidity absorption mode. It also raised the cash reserve ratio further, to 6 percent.

Despite monetary tightening, rising inflation ensures that policy rates in India remain negative in real terms, making it likely that such tightening will continue, which could severely damage growth by inhibiting both drivers of economic growth, namely consumption and investment.[56] Fiscal exit has been relatively more modest so far. The combined fiscal deficit of the central and state governments increased from 4.1 percent in 2007–08 to 8.5 percent in 2008–09 and to 9.5 percent in 2009–10, excluding off-budget liabilities. A sharp reduction in the central fiscal deficit occurred in 2010–11, from 6.4 percent to 5.1 percent, pursuant to a revenue windfall that may be difficult to sustain. However, with rising prices, it may be possible to keep budget deficits in check through the inflation tax, despite rising subsidies.

As the RBI raises policy rates to stabilize GDP, it risks aggravating the rush of external liquidity and, reminiscent of the period leading up to the global financial crisis, once again the country seems headed toward capture by the impossible trinity. The G-20 and the IMF generally advise that, since recovery is still not assured, it is too early to start exiting from extraordinary macroeconomic policies. However, weighed down by wealth losses, the threat of default, and high unemployment rates, the U.S. consumer may be retrenching permanently and returning to saving habits.[57] While this saving is currently counterbalanced by a huge surge in government dissaving, these public sector deficits are unsustainable over even the

56. Following the expectations-augmented Phillip's Curve, the trade-off between growth and inflation has become more complex, since high rates of inflation can of their own damage growth.

57. Personal consumption expenditure in the U.S., which had risen to around 95 percent of disposable personal income before the global crisis, has since reverted to its long-term postwar average of 90 percent. U.S. Bureau of Economic Analysis (www.bea.gov/national/index.htm#personal).

medium term.[58] This pattern is replicated in the euro zone, which composes a substantial chunk of the global economy, with deficit countries in the south such as Spain, Portugal, and Greece retrenching, consequent on their unsustainable fiscal deficits, and even other European countries are rushing to fiscal exit in response to market fears.

Therefore, unless global imbalances unwind substantially, there could be a permanent decline in global trend growth, as it is difficult to envisage, given current trends, that Asian consumption will increase so much so soon that it will take up the entire slack. In these circumstances there is a real danger that macroeconomic policies may overextend themselves in an attempt to overstimulate economies to precrisis levels of growth, even though potential growth may have drifted lower. Central banks and governments, in timing exit, may have to take their cue from inflationary trends rather than from perceived output gaps benchmarked to precrisis growth rates.

Macroeconomic Policy beyond the Crisis: An Indian Perspective

What lessons does the macroeconomic response to the crisis hold for India going forward? First and foremost, it exposed the limits of national macroeconomic policies and underscored the critical importance of global coordination (in view of increasing policy spillovers consequent on rapid global integration) and animal spirits in stabilizing economies. The steep fall in global economic activity during the year following the Lehman crash was sharper than during the Great Depression, but so was the dramatic recovery from the brink. This demonstrates the robustness of fiscal and monetary tools honed in the period following the Great Depression and the power of global integration, which exports both growth and woe with equal facility. The Indian experience with fiscal policy vindicates the view that, when faced with the prospect of a steep fall in economic activity, the fastest bang for the buck lies in targeting consumption. Protracted use of extreme macroeconomic policies by Western economies, however, have so far failed to stabilize them in the absence of the return of animal spirits. The removal of these macroeconomic life support systems is therefore proving challenging. Indeed, the global economy now has to deal with the adverse fallout of such policies, which may actually be derailing the recovery. Such tools should be

58. Based on their study of eight centuries of financial crises, Kenneth Rogoff and Carmen Reinhart have warned that unlike equity-financed bubbles, the fallout of debt-financed bubbles, such as the recent one, can lead to a disastrous buildup of unsustainable levels of public debt, as such losses tend to be socialized and passed on to taxpayers. In such circumstances, official debt data generally understate the magnitude of the problem on account of huge additional off-balance-sheet guarantees. See for example Kenneth Rogoff, "Spotting the Tell-Tale Signs of Bubbles Approaching," *Financial Times*, April 8, 2010.

used only in brief bursts, beyond which policymakers need to rely on structural policies and reform to boost growth.

Second, and paradoxically, even as the response to the crisis exposed the limits of macroeconomic policies, it burdens both fiscal and monetary policies with new objectives. Whether or not the global financial crisis has proved the robustness of rule-bound monetary policies, such as the Taylor rule, nevertheless monetary policy that focuses exclusively on inflation targeting is a major victim of the crisis, as loose monetary policy before the crisis inflated asset bubbles and, ipso facto, the financial crisis. Central banks in developed countries are now considering raising the inflation target to give them more policy space and are also rediscovering a long-forgotten objective of monetary policy, namely targeting financial stability. Central banks in some developing countries, such as India, on the other hand, use monetary policy to target financial stability, by cooling overheated asset prices and intervening in currency markets to cushion surges in capital inflows. The Indian central bank, frequently criticized for its attempts to resolve the impossible trinity and target asset bubbles, may well feel vindicated. Fiscal policy, too, is now burdened with the new objectives of guaranteeing financial stability and rebalancing growth, and tax policies may need to adjust appropriately. The burden of trade policy, too, is likely to fall on fiscal and monetary policies in future.

Third, in sharp contradistinction to the Great Depression, trade policy was never widely used as a macroeconomic tool to counter a downturn. It may well be the case that the lessons of the Great Depression have been absorbed by policymakers, since it is widely believed that the Smoot-Hawley tariffs simply amplified a big recession into the Great Depression. It may also be the case that policy coordination through the G-20 may have persuaded policymakers not to turn their backs on the World Trade Organization by using a politically attractive policy tool to protect domestic employment, long-term damage to multilateral institutions and their own economies notwithstanding. Be that it as it may, the big lesson from the recent crisis in this regard is that the changing pattern of global trade, which has seen the rise of global production chains, ensures that there are few domestic stakeholders to pressure governments to use tariffs as a macroeconomic policy tool to address steep recessions. This does not, however, mean that other forms of protection, such as currency devaluations and discriminatory public procurement, cannot be used as trade policy tools. In short, the burden of trade policy and protectionism may well fall on fiscal and monetary policies in the future.

Fourth, while the crisis illustrates that zero-bound interest rates do not exhaust monetary policy tools, it is not clear whether the use of unconventional tools like credit and quantitative easing is a ticket out of a liquidity trap, a lesson underscored by Japan's experience in the last decade of the last century. Drawing on the lessons from the drastic consequences of a simultaneous steep contraction in credit and money supply feeding off each other during the Great Depression, policy-

makers ensured that monetary contraction did not take place this time around. However, while credit easing might bail out financial institutions, it may not on its own induce them to lend, or induce others to borrow, in the absence of animal spirits. Quantitative easing, on the other hand, is simply an extension of fiscal policy at best, and by monetizing fiscal deficits it tends to blur the distinction between fiscal and monetary policies, thereby undermining the independence of central banks. With its large fiscal deficits, India has always had some species of quantitative easing in the form of the money market operations of the central bank, although, unlike in the case of reserve currencies, this does not have cross-border spillovers. But for the same reason such easing is likely to have a greater impact on domestic interest rates and inflation and so has its limitations as a macroeconomic policy tool.

Fifth, the macroeconomic response to the financial crisis has made it amply clear that only the United States has the capacity to sustain an aggressive fiscal response without triggering an adverse market response. Other countries need sound macroeconomic management in normal times so that they have the countercyclical fiscal space to use fiscal policy effectively in a crisis. As private demand contracts sharply and interest rates on fresh government debt fall on account of monetary easing, a deep recession can create the illusion of fiscal space beyond what can be sustained when normalcy returns. Nevertheless, the United Kingdom was constrained to finance 86.5 percent of its new treasury issuance in 2009 through quantitative easing, as against just 20.9 percent in the United States.[59] In 2010 the United Kingdom reversed its aggressive fiscal stance, while fiscal adjustment was forced on the euro area in the wake of the adverse market response, which resulted in a sharp rise in southern European sovereign bond yields. In sharp contrast, toward the end of 2010, the U.S. Federal Reserve embarked on another aggressive round of quantitative easing to accommodate continued fiscal expansion without any sharp market response.

This asymmetric market response to U.S. fiscal and monetary policies revived an old debate on the enormous privilege enjoyed by the U.S. dollar as the de facto world reserve currency, which enables it to fund large internal and external deficits, more so as this surge in global liquidity is widely believed to have spilled over into emerging markets through capital flows and asset price appreciation. Since Asian economies found that having accumulated reserves through the export-led Bretton Woods II insulated them against sudden stops during the crisis, they may be reluctant to shift from this tested model. Fears are therefore expressed regarding a shift from an unsustainable Bretton Woods II, where surplus savings in emerging economies funded leveraged household consumption in Western economies through runaway financial intermediation, to an equally unsustainable Bretton Woods III, where these savings are intermediated directly

59. International Monetary Fund (2010a, p. 20).

through public debt. This has led to calls for a comprehensive reform of the international monetary system.[60] The 2011 chair of the G-20, France, has consequently put reform of the international monetary system on the G-20 agenda. Academic debate and multilateral consultations notwithstanding, it is difficult at present to see how an alternative reserve currency can replace the dollar in the foreseeable future. The market has only buttressed its safe-haven status during the crisis.

Sixth, the explosion of sovereign debt across advanced countries, following the financial crisis, indicates that, while economies can put in place elaborate, publicly funded, social protection and entitlement schemes while they are young and growing fast, these become increasingly unsustainable as economies age and growth slows. Age-related expenditures were increasing structural deficits in advanced countries before the crisis, and public debt was rising. Cyclical deficits arising out of a protracted recovery from the current financial crisis may well have made this debt unsustainable relative to expected future growth rates in several major advanced countries, unless social compacts are renegotiated. These are however difficult to unwind politically. Emerging economies need to be mindful of this long-term dilemma as they put their own social protection and entitlement schemes in place.

Seventh, although the war chest of reserves provided emerging markets with insulation against a sudden stop, it could not counter the shock through trade channels, with India and China standing out as notable exceptions. Other Asian economies saw a sharp contraction in their growth rates on account of their overreliance on Western demand. The Indian economy was less affected because it is primarily domestically driven, while China was able to insulate itself through an aggressive fiscal package. The global crisis consequently underscores the virtues of externally balanced economies in an era in which rapid global integration has increased the likelihood and overall impact of external shocks. Even as the G-20 endeavors to reduce global imbalances through its signature effort to make global growth stronger, balanced and sustainable, nonreserve, issuing countries are realizing that they remain imbalanced at their peril—perhaps none more than China, its realization evident in its attempts to slowly appreciate its currency and to strengthen domestic demand through its ambitious Twelfth Plan. It is still not clear, however, how the trade-off between insulation against capital shocks and trade shocks will play out.

60. Thus Zhou Xiaochuan, the Central Bank governor of China, has called for replacing the dollar as the international reserve currency and creating an alternative that is disconnected from individual nations; Zhou (2009). While several countries resent the enormous privilege of the United States in leveraging its reserve currency status to raise virtually unlimited funds from international markets at low cost, China's fear is that the huge monetary expansion to fund growing U.S. fiscal deficits could dent the value of its substantial reserve assets denominated in dollars. Dominique Strauss-Kahn, former head of the IMF, has also called for a multiple pole reserve system, including a greater role of the SDR (www.imf.org/external/np/speeches/2010/051110.htm). There have also been some calls for a return to the gold standard (www.gold-eagle.com/greenspan011098.html).

Eighth, and finally, the external liquidity crunch notwithstanding, India's financial sector held up reasonably well during the crisis. Although its transmission channels of monetary policy were always weaker and had longer lags, than those of advanced economies, these transmission channels were nevertheless not clogged. This was largely because the Indian financial system was tightly regulated, like a public utility, which served a critical intermediating function for the real economy. Such regulation is in contrast to the lightly regulated advanced markets, which rapidly succumbed to financial contagion. India's policy has always involved an element of macroprudential regulation.[61]

It is easy to draw the wrong lesson from this. It should be borne in mind that the priorities in emerging markets, like India before the crisis, were not regulatory but developmental, with the aim of deepening and developing new markets to sustain high rates of growth in the real economy. Financial inclusion, high-cost capital (that pushes corporates to bypass monetary policy by borrowing in external markets), long-term funding instruments for infrastructure, the development of liquid bond markets to improve monetary policy transmission, among others, were financial sector priorities in India before the crisis, and nothing has happened in Indian financial markets that warrants changing these priorities. These sensitivities need to be taken into account as financial regulation in the Financial Stability Board, the Basel Committee on Banking Supervision, and other rule-setting bodies is reformed.

While a common set of principles should inform regulation, and regulatory arbitrage is clearly an issue, it is difficult to design a common regulatory framework for systems that are philosophically so different. For example, while banking capital needs to be strengthened in India, this is not on account of higher risks but because credit is projected to expand at a very fast pace to feed underlying high growth rates in the real economy. While the Indian banking system is at present adequately capitalized to meet the demanding Basel-III norms, going forward the public sector–dominated banking system would struggle to adhere to Basel-II norms while expanding credit to fuel a turbocharged economy, as the sovereign fiscal balance sheet is already overstretched. From an Asian perspective, it might be better to have a Glass-Steagall type of banking regulation, with higher capital requirements limited to investment and shadow banking that relies on volatile capital markets for funding.

To take another example, while the principle that the cost of a bailout falls on equity holders rather than on taxpayers is robust, in India large segments of the financial sector, especially banking and insurance, are mostly state owned, and equity holders and taxpayers are mostly one and the same. Therefore it is difficult

61. Duvvuri Subbarao, "Implications of the Expansion of Central Bank Balance Sheets," speech, Kyoto, January 31, 2011 (www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=547).

to see why and how a financial sector tax, which would only raise the cost of capital even further, would be appropriate.

Tight regulation in any case imposes high costs, for regulation is but a proxy for a tax, which is added to the cost of capital. In several advanced economies, however, light-touch regulation ensured that the cost of capital was kept low while systemic risks remained high, unlike in developing countries, where the cost of capital was high but systemic risks remained low. Imposing new and explicit taxes or raising capital norms and levels calibrated to risks prevailing in advanced countries, as has been agreed upon under Basel-III, on a sector where effective taxation is already high would further raise the cost of capital, and this would extract additional costs in terms of forgone growth and development. As financial markets develop, priorities could and would change, and developing countries need to be mindful of not succumbing to the same pitfalls as in advanced financial markets.

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