1 MACROECONOMIC STABILIZATION IN PAKISTAN IN THE MIDST OF GLOBAL INSTABILITY

The 2007 global financial crisis acquired a new lease of life in September 2008 when the collapse of renowned financial institutions triggered a fresh round of panic and a severe crisis of confidence, deepening fears of a prolonged recession. Asia, which had until then shown considerable resilience, was finally hit hard by the downturn in Q4-2008. Pakistan on the other hand was faced with a rapidly deteriorating macroeconomic environment due to the confluence of the international commodity price shock and national political and security issues, and focused on implementing a macroeconomic stabilization program with the support of an IMF Stand-By Arrangement (SBA) from November 2008.

Restoring and maintaining financial stability continues to be the key concern of central banks even as the global economy and financial system emerge from the crisis and recessionary tendencies subside. There is evidence of a relatively quick rebound in Asia, and Pakistan's economy is also showing signs of improvement, though the process of recovery is still nascent and fragile.

It was perhaps due to the complacency invoked by the *Great Moderation*[1] that the global economy found itself ill-equipped for the sudden advent of the *almost second Great Depression* in 2008.[2] Notwithstanding, it is widely agreed that lax monetary policy (which led to the building of bubbles) and global imbalances (large current account surpluses and deficits across countries) contributed to the pre-crisis tendencies reflected in the search for yield, low risk premiums and pressures on financial intermediation. The consequent innovations in financial engineering gave a boost to structured finance instruments which were little understood by both originators and regulators, and led to concentration of risk in the undiversified portfolios of large non-bank financial institutions. This concentration of risks then facilitated the liquidity crisis of 2007 in becoming a full-blown financial crisis and rendering many financial institutions insolvent.

The impact of the financial crisis on the growth prospects of advanced economies started to surface by the end of 2007, which is officially marked as the start of the recession. Due to concerted policy measures by their respective central banks and governments, however, recessionary tendencies started to recede in early 2009, and the global economy is now gradually moving towards recovery.[3] What is encouraging is that the process of revival has started sooner than expected, especially in view of the many bleak projections for global economic growth set forth at the onset of the crisis in August 2007, and as the situation became progressively worse in subsequent months. Not surprisingly, this restoration of global growth is led by the large economies in Asia such as India and China, whereas growth prospects of western economies such as UK, US and the Eurozone are expected to improve by 2010.

Notably, the financial crisis has shown all too clearly the link between the real sector and the financial sector, such that the significance of the *finance and growth* nexus has assumed critical importance. The effects of financial stress on real economic activity (and vice versa) were never before so starkly visible; in case of advanced economies, the feedback loop worked from the stressed financial sector to the broader economy, whereas it was the slowdown in the real sector of emerging economies which consequently impacted their

[1] This term has been used by several economists for the remarkable decline in the variability of both output and inflation since the mid-1980s until the advent of the 2007 crisis.
[2] So termed because global industrial production shrank during the year at a rate not seen since the 1930s.
[3] The US economy returned to growth in the third quarter of 2009 after shrinking in the past 4 quarters.

financial systems during the protracted duration of the crisis. The current views on the debate are summarized in **Box 1.1**.

Box 1.1: Finance and Growth Nexus

Ever since the ground-breaking research by McKinnon and Shaw on the finance and growth nexus in 1973, the role of finance in promoting economic growth has been a subject of ongoing debate. Notably, finance was at best a second order consideration in previous academic research such as the American Economic Review (AER) article by Gurley and Shaw in 1955. By the early 1990s, the consensus between academic economists and policy-makers had become much more positive about the potentially growth-supportive role of a modern financial system, based on considerable evidence suggesting significant growth-enhancing effects from financial development, which was typically measured in terms of either credit or a broad-money measure relative to GDP.

Broadly speaking, history points to 3 general lessons:

1. Financial development is critical for both growth and development
2. The frequent occurrence of financial crises has not reversed the positive relationship between growth and development
3. Financial crises and their impact can be suppressed completely only through severe financial sector repression at a clear cost to economic growth and development.

Notably, the role of finance in the economy was emphasized in remarkably different ways during the crisis in different parts of the world: in advanced economies it was the upheaval in a small segment of the financial sector which impeded the flow of credit and disrupted the efficient functioning of markets with negative consequences for economic growth. On the other hand, in developing countries it was the feedback loop of the slowdown in the real sector which adversely impacted activities in financial markets.

Despite years of debate, there is at present no clear consensus on how to measure the specific impact of financial development on growth, which leads to some degree of uncertainty on the direction of future reforms in financial sector regulation.

The debate about the future of finance in the current crisis in US and Europe continues to be intense, while on the other hand leading emerging market economies continue steadfast towards further financial development, primarily due to structural improvements in the governance of their financial systems, and the gradual pace of financial liberalziatiom, which among other things has also insured that integration with global financial markets does not take place without the necessary checks and balances.

Source: King & Levine (1993) and Lipsky (2009).

Given the extent and size of central banks' policy measures during the crisis, in addition to the expansionary fiscal policies adopted in some countries, there is now a debate on the appropriate timing of an exit strategy for policy actions designed to address specific periods of stress. At the same time there are also concerns that a premature withdrawal of any of these support lines could cause a relapse and trigger another crisis of confidence. Notably, the degree and intensity of the policy actions initiated during the course of the crisis differ considerably among advanced economies and emerging and developing economies in Asia. The region was finally hit hard by the resurgence of adverse events in September 2008, as a flight from risk led capital inflows to these countries to swing abruptly, and as global aggregate demand patterns saw a dramatic shift due to the ensuing environment of uncertainty.

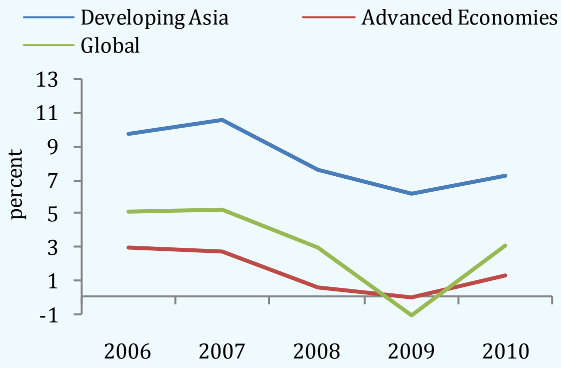
Pakistan, on the other hand, also faced a difficult macroeconomic environment since late 2007, not as such due to the global crisis itself but rather due to a confluence of factors which had been brewing for a while, particularly due to the gradual build up of macroeconomic imbalances. Having embarked on a macroeconomic stabilization program in November 2008 with the support of the IMF SBA, the domestic economy has started to show signs of stabilization.

With this brief introduction, the focus of the chapter is to capture key macroeconomic developments in both advanced economies as well as emerging and developing economies in Asia, to assess the impact of the crisis on macroeconomic and financial stability in Pakistan in the broader context of Asia.

1.1 Global Macroeconomic Developments

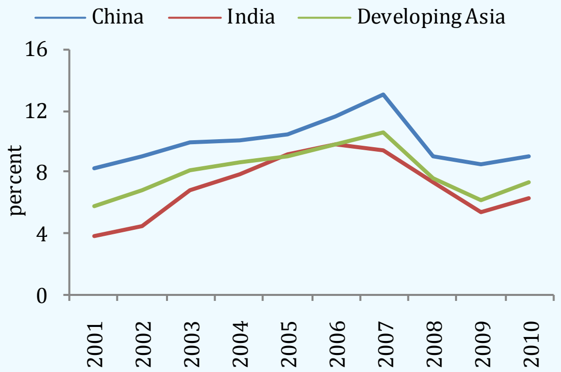
According to latest estimates,[4] global economic growth is expected to *contract* by 1.1 percent in 2009 as opposed to earlier projections: the first such occurrence since the 1930s. Encouragingly however, the world economy is expected to *expand* by 3.1 percent in 2010, though still well below the growth rates achieved before the crisis (**Figure 1.1**). This projected expansion is driven by the relatively lower but still strong growth of the large economies in Asia such as India and China which are projected to grow at 5.4 percent and 8.5 percent respectively in 2009 (**Figure 1.2**), with relatively subdued growth in the US, UK and the Eurozone (**Figure 1.3**).

Figure 1.1: Real GDP Growth Rates



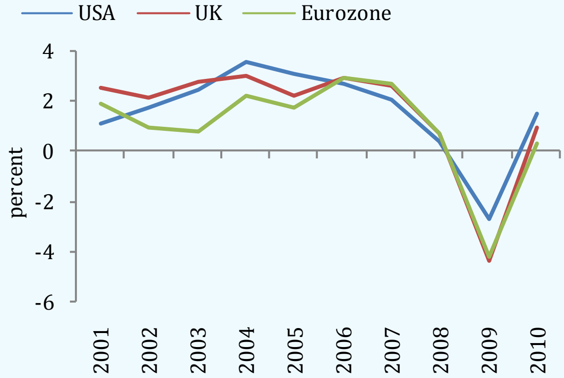
Source: IMF, WEO Oct-09

Figure 1.2: Growth Rates- Developing Asia



Source: IMF, WEO Oct-09

Figure 1.3: Growth Rates-Advanced Economies



Source: IMF, WEO Oct-09

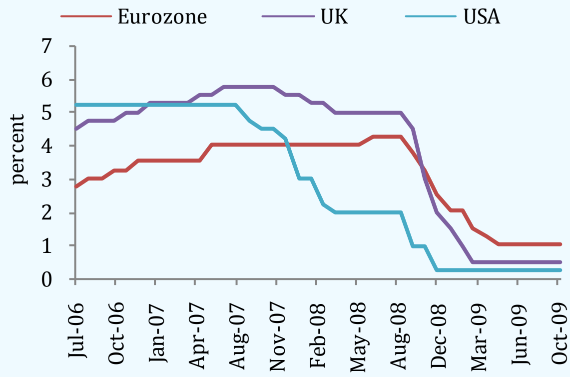
Notably, central banks' policy measures to mitigate the impact of the crisis have concentrated on restoring financial stability in an environment where the monetary transmission mechanism was severely impeded with the freezing of liquidity in key markets, such as the interbank market for maturities beyond one day. Prior to the emergence of threats to the solvency of financial institutions in 2008, the first phase of the crisis was termed as a liquidity cum credit crunch, and these measures were largely aimed at providing the requisite stimulus by easing monetary policy and injecting liquidity into financial markets to restore normal functioning of credit channels. Conventional policy measures, such as reducing policy rates, do have their limits in being *zero-bound* as in case of the US (**Figure 1.4**), hence the scope of policy actions was widened in an unprecedented manner to include a host of unorthodox measures.

Not directly impacted by the crisis, and grappling with the unprecedented rise in global commodity prices, some Asian countries were actually *raising* policy rates (**Figure 1.5**) to fight off inflationary pressures (**Figure 1.6**) just as advanced economies were easing them. As commodity prices peaked in mid-2008, inflationary tendencies subsequently eased off in most of the countries which were net commodity importers, as did the pressure on their current account positions.

[4] As detailed in the World Economic Outlook, October 2009, IMF.

As is well known, the crisis emerged from a small component of the US financial system, and rapidly spread to other advanced economies through the vast outreach of the *originate-to-distribute* model. Emerging economies in Asia, with little exposure to structured finance instruments withstood the strong headwinds until the more pervasive crisis of confidence caused by the collapse of Lehman Brothers in September 2008, which indicated that the worst was still to come, and reinforced fears of a deep and long recession. The uncertainty caused by these events led to a significant deterioration in consumer and business confidence and a shift in global aggregate demand patterns.

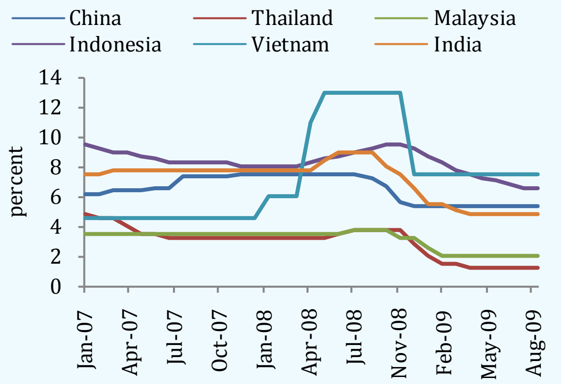
Figure 1.4: Key Policy Rates - Advanced Economies



Source: Central Bank's Websites

Notably, Asia's strong position prior to the crisis owes much to the measures taken in the post-1997 Asian crisis years when these economies strived to instill structural improvements in their economies and financial systems: fiscal and external debt positions were stabilized, foreign exchange reserves were shored up and their respective banking sectors were substantially reformed. Hence at the onset of the crisis, Asian economies were well-positioned to avoid its worst effects.

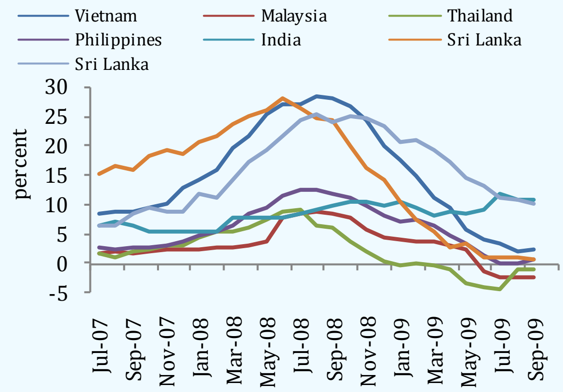
Figure 1.5: Asia Policy Rates



Source: Central Bank's Websites

It is generally agreed however, that a key source of Asia's recent progress has been the openness of its countries to global trade and finance. Given the export-led nature of Asia's growth, economies in the region experienced a economic slowdown as the recession in advanced economies manifested itself more bleakly. Several Asian economies started to show signs of financial stress and a slowdown in economic activities by Q4-2008. **Figure 1.7** shows the trend of global exports since the start of the crisis: (nominal) exports plunged by about 34.7 percent between Q3-2008 and Q1-2009: the trade dependent economies in Asia, where net exports account for a predominant share of output, could have hardly remained immune to such a decline. Among major Asian economies, only China, India and Indonesia did not contract during the crisis, though they did experience notable deceleration. Incidentally, these countries are the least financially open economies in Asia.[5]

Figure 1.6: Inflation Rates in Asian Economies



Source: Central Bank Websites, Bloomberg

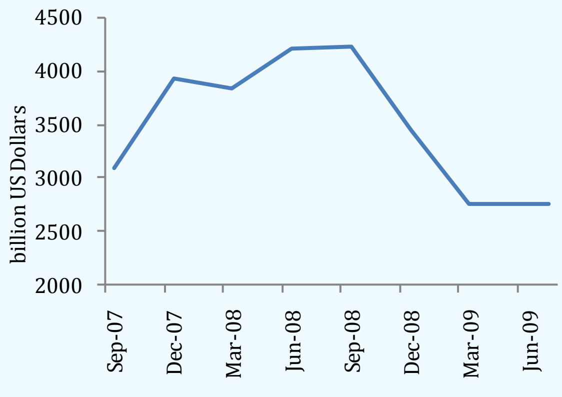
While international trade proved to be a critical channel of transmission of the contagion effect for virtually all Asian economies, it was exacerbated by the uncertainty and risk

[5] As discussed in Bernanke (2009).

aversion in credit markets. Economies with substantial external account and fiscal deficits were particularly badly hit, as access to international capital flows dried up, and there was little room for implementing fiscal stimulus packages, as done more successfully by China with its huge current account surplus.

Hence the second important channel of contagion effect was reflected in the volume of capital flows to emerging markets in Asia – as the crisis intensified and international investor's appetite for risk evaporated, *perceptions* of risk caused a shift in the flow of capital away from these countries regardless of the strength of their economic fundamentals. The reversal of capital flows did cause problems in countries in which the financial system had some dependency on either the wholesale funding market in particular or external financing in general, as was the case in Korea. There was a corresponding decline in Asian equity markets and credit default swaps (CDS) on sovereign and corporate bonds.

Figure 1.7: World Quarterly Exports

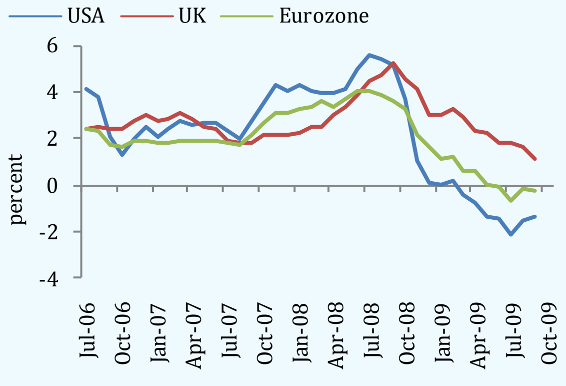


Source: International Financial Statistics

With an earlier than expected start of the recovery process in advanced economies, the quick rebound in Asia is driven by its strong pre-crisis fundamentals, as was its policy response during the course of the crisis. Central bank policy measures in Asian countries were albeit of a different intensity and magnitude, targeted at restoring short-term balance rather than achieving fundamental macroeconomic objectives as in case of advanced economies (**Box 1.2**). Policy measures also differed due to the inherent variations in the character of the financial system, given that the financial system in the US gives a much greater role to financial markets and to non bank financial institutions than is the case in most other countries, with a primary reliance on banks.[6]

Notably, these unconventional policy measures targeted at achieving macroeconomic objectives in advanced economies also gave rise to concerns about the potentially inflationary role of the historically low interest rates and excessive liquidity in the system. However, these concerns are now subsiding given the recent trends in inflation in US, UK and the Eurozone (**Figure 1.8).**

Figure 1.8: Inflation Rates in Advanced Economies



Source: Central Banks' Websites

Importantly, in response to the fiscal stimulus program in countries such as China, the recovery process is driven by the significant growth in domestic demand, rather than growth in demand from trading partners, as reflected in the growth of the manufacturing sector in recent months despite falling exports.

While the global financial system has also started to stabilize, downside risks remain however, in the premature retrenchment of expansionary policies. While discretion and

[6] Bernanke (2009).

judgment needs to be exercised by central banks, Asian countries in general are striving to promote domestic demand, something which will also reduce the occurrence of global imbalances of the pre-crisis magnitude.

Box 1.2: Unconventional Central Bank Policy Measures during the Crisis

Without doubt, central banks' policy actions have played a significant role in preventing the global financial crisis from becoming a full blown second Great Depression. These measures comprised of both conventional and unconventional tools and methods. Unconventional measures are so termed because they are a clear departure from the policy framework built and advocated by central banks in the last two decades. The objective of these measures was to address fundamental macroeconomic challenges in the economy and the systemic financial stress which made financial stability a central policy objective during the crisis.

The scope and influence of the unconventional measures differed considerably in advanced economies, where the crisis started, and emerging economies, which faced limited financial stress. A newly compiled database of emerging economies' unconventional measures covers 39 mainly medium and large economies for period from September 2008 to June 2009. It shows that the emphasis in advanced economies was on the use of credit easing and quantitative easing measures, whereas emerging economies used foreign exchange and domestic short-term liquidity easing measures to help alleviate liquidity stress in these key markets. Differences in the use of unconventional measures between emerging and advanced economies are based on the extent of financial stress and policy credibility, as detailed below:

Timing: Advanced economies resorted to monetary easing using conventional tools early in the crisis, and switch to unconventional methods after the failure of Lehman Brothers in September 2008 which were particularly needed where policy rates had been lowered to near zero levels.
Emerging market economies were actually *raising* policy rates though September 2008, grappling with capital inflow and inflationary pressures. They also turned to unconventional measures in September 2008 in response to the sudden tightening of global liquidity, when exchange rates came under pressure and net capital inflows dried up.

Types: The liquidity easing measures employed by both advanced and emerging economies differed in their profile. Emerging economy central banks relied more on direct instruments such as easing of reserve requirements, whereas advanced economies introduced systemic liquidity easing measures. While several advanced economy central banks relied heavily on credit and quantitative easing measures, they were barely used by emerging economy central banks.

Magnitude: Conventional monetary policy easing for most central banks has a limited impact on the size of their balance sheets, whereas most unconventional measures lead to an expansion in its size. The balance sheet of central banks in advanced economies started to swell in September 2008, more so than those of emerging economies. Not only did emerging economies hardly used quantitative and credit easing measures, most of them actually ran down their international reserves.
Notably, the effectiveness of unconventional measures is difficult to measure given that they were largely meant to boost confidence. What is perceived to be the case is that these measures were successful in restoring financial stability to a large extent in advanced economies, whereas they had limited applicability and success in emerging economies

Source : IMF WP/09/226

1.2 Domestic Macroeconomic Developments

Macroeconomic instability in Pakistan had started to emerge long before the lagged impact of the crisis started to manifest itself in Asia. It all started with the build-up of macroeconomic imbalances as reflected in the rising fiscal and current account deficit. In contrast with Asia's export-led growth, economic growth in Pakistan has been largely consumption driven, with a low and declining level of financial savings. Domestic demand pressures, as evidenced by growing private sector credit and rising volume of imports, led to rising inflation, as did the monetization of fiscal deficit by direct borrowings from the central bank. Notably, the bizarre trend in the international commodity prices also added to these pressures. Hence FY08 had ended with a sustained increase in inflationary pressures and both fiscal and current account deficits at record highs (**Table 1.1**)

These weak fundamentals deteriorated further in the first half of FY09, such that inflation continued to rise with the pass-through of commodity prices and phasing out of subsidies, touching its peak of 25.3 percent in August FY09. During this period, liquidity strains in banking sector and the money market also caused, albeit for a much shorter period, a crisis of confidence in the domestic financial sector.

Table 1.1: Major Economic Indicators

	FY03	FY04	FY05	FY06	FY07	FY08	FY09	Q-1 FY10*
Growth rates in percent								
GDP	4.7	7.5	9.0	5.8	6.8	4.1	2.0	-
CPI Inflation	3.1	4.6	9.3	7.9	7.8	12.0	20.8	10.1
Monetary assets (M2)	18.0	19.6	19.3	15.2	19.3	15.3	9.6	0.8
Private Sector Credit	18.2	34.3	34.4	23.5	17.3	16.5	0.7	-4.1
Billion US Dollars								
Workers' remittances	4.2	3.9	4.2	4.6	5.5	6.5	7.8	2.3
Exports (f.o.b.)	10.9	10.3	16.9	14.3	3.2	12.2	-6.7	4.6
Imports (c.i.f.)	11.3	27.6	32.1	38.8	6.9	30.9	6.5	7.4
Official liquid FE reserves	10.0	12.4	12.6	13.1	15.6	11.4	12.4	14.2^
Percent of GDP								
Fiscal deficit	-3.7	2.3	3.3	4.3	4.3	7.6	5.2	4.9**
Current account balance	4.9	1.8	-1.4	-3.9	-4.8	-8.4	-5.3	-1.6

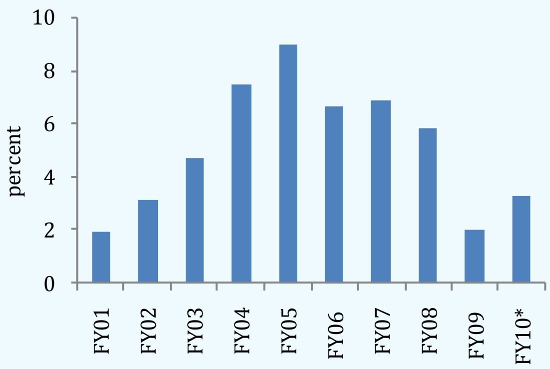
Source: SBP Annual Reports, various editions

* Upto September 30, FY10 ** Annual Targets FY10 ^ as on October 31, 2009

By then, the second round impact of the global crisis had also hit the economy through the contagion channels of trade and capital flows, as was the case for Asia in general. The situation deteriorated to an extent that the imbalances were financed by drawing down country's foreign exchange reserves, and the import coverage ratio reduced to as low as 8.9 weeks by end-October FY09. Consequently, sovereign ratings were revised downward by Moody's in October FY09,[7] which together with the drying up of capital flows, served to further incapacitate the economic managers in raising the much needed funding from external sources. All these developments together had an adverse impact on the country's growth prospects such that GDP growth declined to 2.0 percent in FY09 (**Figure 1.9**).

The new government which had taken over in March FY08, focused on arresting the rapid deterioration in the economic fundamentals with the advent of a home-grown macroeconomic stabilization program which was jointly implemented by the government and the State Bank of Pakistan from November FY09 onwards with the support of the IMF SBA.

Figure 1.9: Real GDP Growth Rate of Pakistan



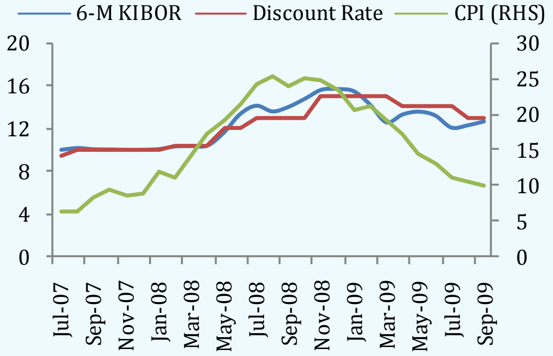
Source: SBP *Target for FY10

The thrust of the stabilization program and the SBA is on monetary and fiscal tightening to contain domestic demand pressures for both domestic and foreign goods (to control rising imports and the pressure on the exchange rate) and structural reforms to increase revenue and overcome energy bottlenecks which have had an adverse impact on real economic activity. Specific areas where concerted policy actions have been taken are discussed below:

[7] Moody's Investor Services downgraded Pakistan's rating from B2 to B3 in October 2008 – the same rating that Pakistan was given on May 28, 1998 i.e. the day of the nuclear test.

Monetary Policy: SBP's monetary tightening had taken an aggressive posture since FY08, and by November FY09 the policy rate had been increased to 15.0 percent. This was in addition to raising reserve requirements in the interim policy measures taken in May FY08. However, faced with a liquidity stress in the money market, SBP lowered reserve requirements in a phased manner over October-November FY09, releasing Rs 270 billion liquidity in the market. However, the easing of reserve requirements was not accompanied with a decrease in the policy interest rate, indicating a continuation of the tight monetary stance. While the liquidity easing measure diluted the impact of monetary tightening to a certain extent, inflationary pressures started to ease off in subsequent months (**Figure 1.10**). This allowed SBP to take a cautionary view on changing the policy direction, and it reduced the policy rate by 100 bps in April FY09: for the first time since the advent of monetary tightening in April FY05. The discount rate was cut by another 100 bps to 13.0 percent in August FY10.

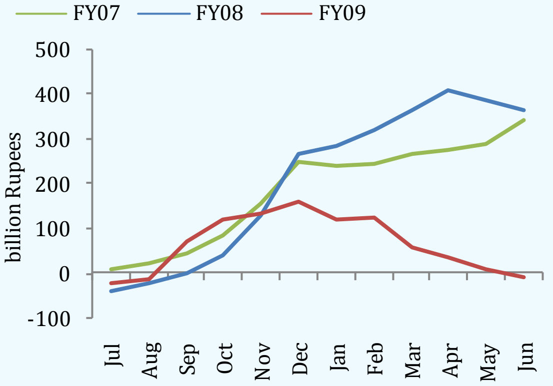
Figure 1.10 : Discount Rate, 6-M KIBOR and CPI
(percent)



Source: SBP

Apart from the substantial decline in inflation, efforts to contain domestic demand pressures are more visibly reflected in the sharp decline in the growth in private sector credit from H2-FY09 onwards: private sector credit grew by a record low 0.7 percent in FY09, in stark contrast to the 16.5 percent growth recorded in the previous year and average growth of around 24.0 percent during the preceding six years (including FY08) (**Figure 1.11**).

Figure 1.11: Private Sector Credit (Flow)



Source: SBP

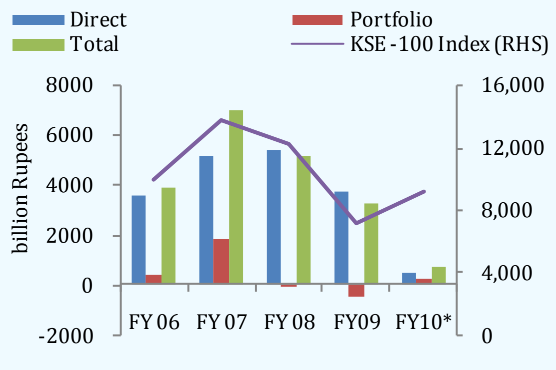
Implementation of the SBA has also allowed the SBP to undertake some key reforms, including the imposition of quarterly targets on government borrowing from the central bank, improved mechanism of public debt management by conducting volume based auctions where the cut-off rate is decided by the Ministry of Finance instead of SBP, and introducing an interest rate corridor to inculcate transparency in liquidity management operations, besides strengthening monetary transmission mechanism.

Fiscal measures: Phasing out of subsidies (out of a budget deficit of Rs. 777.2 billion in FY08, Rs. 395 billion were spent on subsidies) was a key step in fiscal consolidation, along with a cut in developmental expenditures, and efforts to address the circular debt issue, factors which have served to reduce the fiscal deficit to 5.2 percent of GDP in comparison with 7.6 percent in FY08.

Current account balance: Active demand management to curtail imports and substantial decline in international commodity prices have eased off the pressure on the external current account. Transmission of contagion effect of the crisis showed more visibly in FY09 in the form of slowing exports due to reduced global demand: total exports declined by 6.7 percent YoY in FY09 in comparison with an increase of 12.2 percent in FY08. As a positive feature, workers' remittances surged to US$ 7.8 billion during FY09, growing by 21.1 percent over FY08. Consequently, the current account deficit narrowed to 5.3 percent of GDP in FY09 as against the record high 8.4 percent in FY08. Dampened investor confidence was more visible in the declining volumes of FDI and portfolio investment in FY09 which was exacerbated by the virtual closure of the stock market for around 4 months during FY09 (**Figure 1.12**). As in case of the rest of Asia, Pakistan CDS spreads which had increased to 5106 at the peak of the crisis, have reduced to 1864 by May 2009 (**Figure 1.13**). This particular development, alongwith the upgrade in credit rating by Moody's in August FY10,[8] makes international markets more accessible for tapping non-debt creating flows.

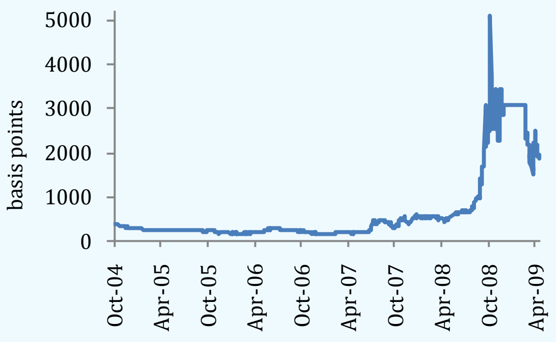
Going Forward: With various positive developments, the process of gradual recovery has started, and GDP growth rate is likely to be close to the target of 3.3 percent for the year. Decline in inflation in recent months have made it likely for the average annual inflation for FY10 to drop to 10-12 percent.[9] However risks to macroeconomic stability can still potentially arise from developments in the still weak global economy, with implications for the external sector.

Figure 1.12: Foreign Investments and KSE-100 Index



Source: SBP and KSE

Figure 1.13: Credit Risk: Sovereign Credit Default Swap Spreads - Pakistan's 5 year International Bond



Source: Bloomberg

1.3 Conclusion

The disproportionate balance of savings in different regions of the world, which manifested itself in the form of global imbalances, is perceived to be the root cause of the sequence of events which wreaked havoc in the global financial system; the speculative tilt of financial sector transactions then became the trigger. Learning from the reform agenda set forth by the G-20, which now has an appropriate representation of emerging economies in general, and large Asian economies in particular,[10] the challenge for Asia and the advanced economies is to achieve more balanced growth and to further reduce global imbalances.

Pakistan has come a long way from the unsustainable balance of payment position and high inflation that existed in November FY09. However significant challenges remain before the country can truly consider itself to be out of the quagmire. For one, the savings pattern in Pakistan is not very encouraging. Structural weaknesses in the economy continue to impede the economic reform process. In the near-term future, the main challenge for both advanced economies and for Pakistan are in a way similar – to get credit flowing again – to promote economic growth, and to restore and foster financial stability in the near-term.

[8] Moody's Investors Service raised Pakistan's ratings on its foreign currency denominated sovereign debt from B3 with negative outlook to B3 with stable outlook on August 17, 2009.
[9] SBP Annual Report 2008-09.
[10] China, India and Indonesia are now part of the G-20 forum of nations.

References

Bernanke, Ben (2009), "Asia and the Global Financial Crisis" Federal Reserve Bank of San Francisco's Conference on Asia and the Global Financial Crisis, Santa Barbara, California October 19, 2009.

Bernanke, Ben (2009), "Reflections on a Year of Crisis" Federal Reserve Bank of Kansas City's Annual Economic Symposium, August 21, 2009.

Brenda González-Hermosilloand Heiko Hesse (2009), "Global Market Conditions and Systemic Risk", IMF WP/09/230.

International Monetary Fund (2009), "Regional Economic Outlook, Asia and Pacific Global Crisis: The Asian Context", May 2009.

International Monetary Fund (2009), "World Economic Outlook, October 2009".

Lipsky, John (2009), "Challenges and Strategies for Promoting Economic Growth" IMF, October 19, 2009.

Lipsky, John (2009), "Asia, the Financial Crisis and Global Economic Governance." October 20, 2009.

Kotaro Ishi, Mark Stone, and Etienne B. Yehoue (2009), Unconventional Central Bank Measures for Emerging Economies", IMF WP/09/226.

Ron Haruni (2009), "Macroeconomic Stability and Financial Regulation: Key issues for the G-20" Centre for Economic Policy Research, March 2009.

King, Robert G. and Ross Levine (1993), "Finance and Growth: Schumpeter Might Be Right" Quarterly Journal of Economics, Volume 108, No. 3, pp 717-737.

State Bank of Pakistan, (2008-09), "Economy, Annual Report 2008-09".