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The Impact of the Global Crisis on South Asia

Bruno Carrasco, Tadateru Hayashi, and Hiranya Mukhopadhyay
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The Impact of the Global Crisis on South Asia¹

ABSTRACT

In South Asia, India and Sri Lanka were affected most by the global economic crisis. They initially responded to the supply shock by a combination of fiscal and monetary policies to mitigate the impact and support economic growth. Bangladesh and Sri Lanka took narrower targeted fiscal stimulus measures, but India adopted more across-the-board fiscal stimulus to support economic growth. The differences in the fiscal and monetary policy stance reflect the impact of the crisis, the assessment of the downturn, and the availability of fiscal space.

Fiscal measures are in general well-targeted, but some measures did not have specific expenditure ceilings or timeframes, raising concern about their temporary nature. Two key challenges are to ensure timely removal of fiscal stimulus, and to resume appropriate fiscal consolidation measures and support for structural reforms, for strong supply side responses in the recovery phase and for a more competitive South Asia.

Monetary policy successfully stabilized the financial sector from the initial impact of the global crisis. But the effectiveness of monetary policy to support growth by lowering the cost of borrowing was mixed. Given the inflation risks arising out of recent global oil price movements and potentially weak domestic food production in South Asia, exit strategies from the accommodative monetary policy should be carefully considered while balancing fiscal accommodation to avoid jeopardizing preliminary signs of economic recovery.

JEL Classification: E52, E61, E62, H30, H63

Keywords: Fiscal Policy, Policy Coordination, Debt Management

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1. INTRODUCTION

The financial crisis that began with problems in the sub-prime mortgage market in the United States (US) and spread around the world in September 2008 marked the first global financial crisis of the 21st century. Indeed, what appeared initially to be a difficult, yet seemingly contained problem, turned into a rapid meltdown of the US financial system. The devastating impact on the balance sheets of many of the leading investment banks—despite the "virtues" of transferring risk from bank balance sheets under the "originate and distribute" model of banking—quickly propagated across major financial centers. In an attempt to reduce the large counter-party credit risk, banks began calling in loans, including those in seemingly riskier emerging markets. This flight to quality aggravated the financial positions of what were strong financial institutions that had no—or limited—exposure to the impaired institutions during the first round effects. The credit squeeze and the ensuing impact on real estate and housing asset markets led US firms and households to reduce spending, resulting in a sharp economic slowdown. The first round effects soon gave way to a second round through slower export demand, further weakening global economic growth.

The global crisis presents many lessons on the impact itself and on measures to mitigate it. There has been wide debate among economists on their role and the contribution of the large body of work to address shortcomings in economic management (see Krugman 2009 and resulting replies by Cochrane 2009 and Lucas 2009). Given these events—and quick policy responses—economists have been re-examining the scope for countercyclical demand management measures, in particular, the role of fiscal and monetary policy to effectively accommodate an external shock. Learning from the Great Depression, the US administration has taken a very active approach through a \$1.0-trillion-plus fiscal stimulus—in effect bailing out troubled banks—and a decisive and aggressive program of Federal Reserve-led quantitative easing to inject liquidity, stabilize markets, and eventually restore the economy to health. Similarly in countries across the world, fiscal and monetary authorities have in large measure been adopting countercyclical demand management policies to contain the external shock and support growth.

This paper focuses on the economic impact of the global crisis on South Asia² and the policy measures pursued.³ It analyzes the effectiveness of these policies and raises the critical longer-term issues, which to date have largely been ignored. It argues that the global crisis has to be analyzed against the backdrop of the commodity price shock in the lead up to the crisis, which was particularly harmful in South Asia, leaving many countries with limited fiscal space, high inflation, relatively tight monetary policies, and increasing pressure on current account balances. Another interesting result is that those countries that had large fiscal deficits entering the crisis did manage to exercise some degree of fiscal discipline and indeed limited the size of the countercyclical fiscal spending, perhaps in recognition of the downside risks to macroeconomic management and debt sustainability considerations. On the transmission channels, monetary policy was criticized for not being particularly effective in relaxing liquidity constraints because financial intermediaries were slow to lower policy rates. This paper also concludes that in India and Sri Lanka, despite counterparty risk, lending was by and large demand constrained, at least from December 2009 onward. Finally the paper discusses some of the longer-term implications of fiscal adjustment required to bring deficits back to a sustainable equilibrium.

² While this paper focuses on South Asia, limited data, including limited availability of high frequency data, has resulted in a narrower coverage across various sections and in particular the modeling exercise.

³ Preliminary estimates of the socioeconomic implications of the crisis include a 4.9 million increase in unemployment according to the International Labour Organization and a 20% rise in chronic poverty across South Asia in 2009 according to the United Nations Children's Fund, 2009.

Section II highlights conventional wisdom on the crisis and presents key challenges. Section III reviews the impact of the global economic crisis on South Asia, focusing on key indicators. Section IV analyzes the effectiveness of fiscal and monetary policies adopted. Section V explains the implications of those policies. Section VI reviews important considerations on the way forward, and section VII concludes.

2. CONVENTIONAL WISDOM AND THE CRISIS

In the midst of the global crisis, the International Monetary Fund (IMF) (2008) pointed to the importance of policy measures to increase demand and restore economic confidence. The optimal fiscal package, it said, should be timely, large, lasting, diversified, contingent, collective, and sustainable. A critical question in what has at times been unprecedented use of active countercyclical stimulus measures is what is their implied cost? According to IMF (2009a), the fiscal balances of advanced Group of 20 (G20) economies are projected to decline by 6 percentage points on average and government debt to rise by 14.5 percentage points of gross domestic product (GDP) in 2008–2009. The fiscal balances of the G20 emerging economies are also projected to deteriorate, albeit markedly less, reflecting less pronounced deterioration and financial systems that have largely been spared major distress.

IMF (2010) raises interesting issues on macroeconomic policy learning from what worked well and what worked less during the global crisis. The paper explains why it is that fiscal policy is back in fashion. One argument suggests that as monetary and credit policy reached its limit (particularly on the zero bound interest rate), policymakers had no other choice but to rely on fiscal policy more heavily. The other argument is that as the recession across countries was expected to last long, fiscal stimulus would have enough time to yield beneficial impacts despite conventional implementation lags.

IMF (2009a) highlights three channels through which fiscal costs operate: automatic stabilizers;⁴ other non-discretionary impacts beyond the impact of the cycle; and discretionary fiscal stimulus. Given the plethora of channels, it is difficult to quantify with any precision the amount of active fiscal spending incurred by fiscal authorities to pump prime their economies.⁵

IMF (2009b) argues that Asia is leading the recovery, reflecting the region's rapid, forceful, and comprehensive policy response. This pull factor is explained by the strong condition of many Asian economies going into the crisis. In those countries, governments' fiscal positions were sounder, monetary policy was more credible, and corporate and bank balance sheets sturdier than at any time in the past. This may indeed characterize East and Southeast Asia, which may, perhaps, have learned from the 1997/98 Asian financial crisis. But it is less clear whether it fully reflects South Asia which—perhaps more than coincidentally—was largely unaffected by the Asian crisis.

While initial conditions were important, the Asian Development Bank (ADB) (2009a) also notes that a country's ability to withstand shocks depends on a set of variables that may either amplify or absorb them. Countries with strong macroeconomic fundamentals would be better able to withstand or absorb shocks, and those with weak and narrower financial systems, less so. According to Amjad and ud Din (2009), the following factors are shock absorbers: (i) soundness of financial system, (ii) reliance on domestic consumption rather than exports, (iii) macroeconomic stability, and (iv) healthy foreign exchange reserve position. The following are shock amplifiers: (i) lack of economic diversification, and (ii) high dependence on external

⁴ Automatic stabilizers are defined as the tendency of tax revenues to rise and fall, and certain components of public spending (i.e., social safety nets) to fall and rise, with the level of economic activity.

⁵ In emerging economies, this is further exacerbated by the difficulty of measuring structural versus cyclical fiscal deficits.

financing. The two authors extend estimates on Keynesian multipliers based on a common methodology (Papanek and Basri 2009) to assess the likely impact of the external shock on South Asian economies based on direct and indirect effects. According to these multiplier projections, Bangladesh would be least affected by the crisis and Sri Lanka most.

According to IMF (2009b), policy makers face two challenges. What is the appropriate balance between providing support to these economies until recovery is robust and self-sustaining without undermining inflationary pressures and fiscal sustainability? And how do policy makers sustain recovery in a new environment where export demand from the Group of Seven industrialized countries may not be as strong as in the past, with factors pointing to some rebalancing of determinants of growth in favor of domestic demand? While the first question is now, indeed, the issue for South Asian policy makers, the second is perhaps less pertinent to South Asia, where the balance between domestic and export-led growth has been better. Given the relative importance of the first challenge, downside risks to the fiscal outlook will have to be carefully managed, which will involve formulating—and effectively communicating—a strategy that ensures medium-term fiscal solvency. Moreover, while fiscal authorities generally presume to err on the side of caution and prolong the stimulus, an effective strategy raises the importance more than ever of the close coordination of fiscal and monetary policies.

3. THE IMPACT OF THE CRISIS ON SOUTH ASIA

3.1 A History of Back-To-Back Shocks

The global crisis of September 2008⁶ was the second major external shock to affect South Asia in recent times, following closely on the commodity price shock and record high food and oil prices that began in 2007. The food crisis was particularly harmful in the region due to a disproportionately large share of poorer households vulnerable to higher food prices (Table 1)⁷. To mitigate the effects and preserve recent poverty-reduction gains, the region's governments were expanding public spending in the run-up to the global crisis. This included increasing household income transfers, such as subsidies to food, fuel, and fertilizer, and higher social safety net spending (Table 2). Other counter measures included temporarily reducing value added tax (VAT) and other taxes on fuel in India and later in Sri Lanka. All measures sought to contain the pass-through from international to domestic prices and mitigate the impact on the most vulnerable households. Nonetheless, the partial pass-through to domestic prices across time translated into higher inflation. Monetary authorities were eventually forced to turn to increasingly tighter monetary policy to contain rising inflationary pressures.

Table 1: Population Living on Less than \$1.25/day

Region	1990		2004		2015	
	Million	%	Million	%	Million	%
East Asia and Pacific	873.0	48.0	316.2	23.0	137.6	14.5
South Asia	579.2	31.9	595.6	43.4	403.9	42.6
Sub-Saharan Africa	297.5	16.4	388.4	28.3	356.4	37.6
Others	68.4	3.8	73.4	5.3	49.2	5.2

Source: *Global Economic Prospects 2009*, World Bank.

⁶ While the crisis began in February 2007 with the increase in the United States of sub-prime mortgage defaults, it took on global proportions in September 2008 with the bankruptcy of Lehman Brothers.

⁷ In Nepal, however, the increase in central government expenditure was largely related to the ongoing peace process, such as the 2008 constituent assembly elections and management of the cantonments for former Maoist combatants.

Table 2: Central Government Expenditures
(% of GDP)

Country	FY2005	FY2006	FY2007	FY2008	FY2009
Bangladesh	13.8	13.9	13.4	15.8	15.3
India	26.5	27.4	27.7	31.2	–
Nepal	14.9	14.5	15.9	17.4	20.0
Sri Lanka	23.8	24.3	23.5	22.4	–

– = not available, FY = fiscal year.

Source: *Asian Development Outlook 2009*, Table A21. Data for 2009 and India 2008 based on authors' calculations.

As a result, when the global crisis struck, the still fast-growing countries of South Asia faced increasing inflation, higher interest rates, larger public spending and, in some, such as Sri Lanka and the Maldives, increasing domestic (fiscal) and external (balance of payments) imbalances.

3.2 First and Second Round Effects

The immediate impact of the global crisis on countries such as India and Sri Lanka was a large short-term capital outflow as international investors moved short-term capital into safer havens. This wreaked havoc on reserves, exchange rates, investment planning, and overall balances of payments. This first round effect quickly gave way to a liquidity shortage amid the international credit crunch. In the second round,⁸ exports nearly collapsed as G7 economies fell into recession.

Governments and central banks reacted quickly, adopting a combination of countercyclical fiscal and monetary policy measures that sought first to stabilize economies and then to avoid recession by supporting domestic demand to counter the decline in external demand over the medium term.

Monetary authorities initially focused on stabilization policies addressing liquidity shortages due to the sudden reversal of capital flow. The outflow was driven by the repatriation of portfolio investment associated with the sharp drop in equity prices in the major stock markets in the region as well as withdrawal of short-term loans, particularly in countries such as India and Sri Lanka, where financial systems are relatively more advanced and better integrated than elsewhere in the region. As financial systems stabilized, monetary authorities had to focus on the resulting credit crunch. Domestic and foreign banks were reluctant to lend due to the perceived high credit risk on the demand side and, among foreign banks, the need to rebuild balance sheets following large write-offs on the supply side.

The net outflow of capital and financial accounts was worst in India and Sri Lanka—\$4.3 billion and \$5.3 billion for India, and \$1.1 billion and \$0.3 billion for Sri Lanka during the fourth quarter (Q4) 2008 and first quarter (Q1) 2009, respectively (Table 3). As a consequence, many investment projects in South Asia, lacking private funds, were suspended. Ongoing projects were also put on hold as short-term funding was in many instances not rolled over. Authorities in India and Sri Lanka initially intervened in the foreign exchange market to moderate currency depreciation which, in turn, accelerated the loss of reserves beyond the initial capital outflow. However, the exchange rate policy did serve to accommodate the supply shock and mitigate the strong adverse effects on the export sector, with India reaching a peak in the depreciation of its currency against the dollar by 12% and Sri Lanka by 17% (Figure 1). The combined capital outflow and exchange rate intervention was particularly destabilizing for Sri Lanka, which lost

⁸ In Sri Lanka, there was even a third shock by way of the costs of reconstruction and rehabilitation of the north of the country related to the end to its long-running civil conflict.

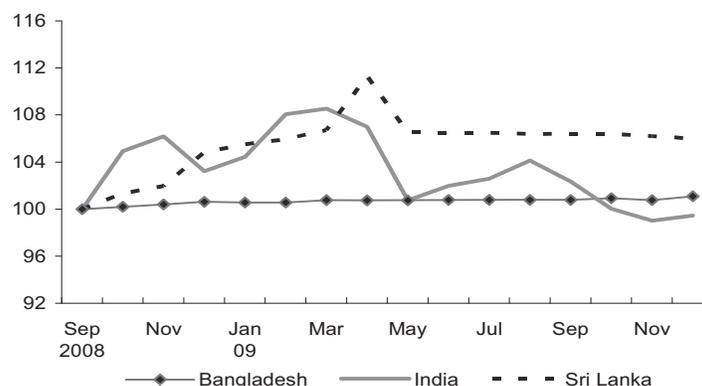
about 60% of its gross international reserves during October 2008 to March 2009. India was the next most affected, losing about 12% of gross reserves. Bangladesh and Nepal, being less integrated into the international financial markets, were largely spared.

Table 3: Capital and Financial Account (net) and Change in Gross International Reserves
(\$ million)

Country	Capital and Financial Account (net)			Change in Gross International Reserves		
	Oct–Dec 2008	Jan–Mar 2009	Total	Oct–Dec 2008	Jan–Mar 2009	Total
Bangladesh	334	–321	13	–75 (–1.3%)	165 (2.8%)	91 (1.5%)
India	–3,683	–6,146	–9,829	–30,300 (–10.6%)	–4,000 (–1.4%)	–34,300 (–12.0%)
Nepal	96	231	328	135 (5.8%)	185 (7.9%)	321 (13.7%)
Sri Lanka	–1,132	–267	–1,399	–1,432	–481	–1,913

Note: The figures in parenthesis indicate changes against end-September reserves outstanding.
Sources: Bangladesh Bank, Major Economic Indicators Monthly Update; Reserve Bank of India, press release; Nepal Rastra Bank, Current Macroeconomic Situation; Central Bank of Sri Lanka, Selected Economic Indicators.

Figure 1. Foreign Exchange Rate (September 2008 = 100)



Source: CEIC Data Company Ltd.

Meanwhile, the collapse in activity, particularly in the Group of Three (G3),⁹ led to a precipitous decline in South Asian exports.¹⁰ By October 2008, 1 month into the crisis, merchandise export growth fell to zero or almost zero in Bangladesh, India, and Sri Lanka (Figure 4).

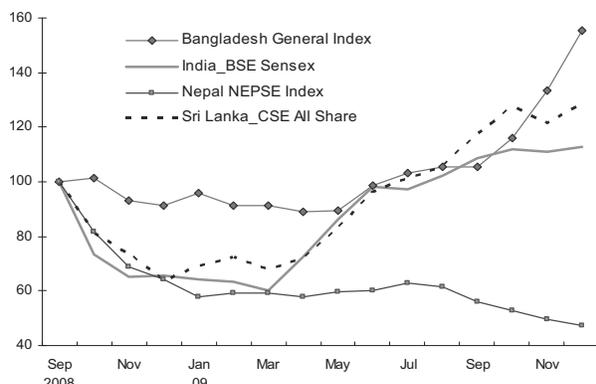
⁹ The European Union, Japan, and US.

¹⁰ By early 2009, the annualized fall in a quarterly moving average of world industrial output reached 25%. The fall in world trade was even more extreme (*Financial Times*, 7 October, 2009).

3.3 Where Do We Stand Now? Transmission Channels at Work

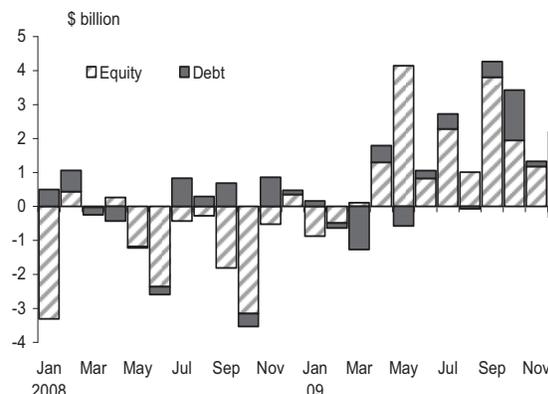
Over a year since the onset of the crisis, financial markets in India and Sri Lanka have rallied, reflecting a recovery in portfolio investment (Figure 2). In fact, net investment in India by Foreign Institutional Investors recovered to a net inflow of \$18.5 billion in 2009 from a net outflow of \$9.3 billion in 2008 (Figure 3). However, cross-border commercial bank lending remains subdued as foreign banks continue to slowly unwind their exposure to sub-prime mortgages and gradually rebuild capital bases.

Figure 2: Stock Indexes



Sources: CEIC Data Company Ltd.; Nepal Stock Exchange.

Figure 3: Net Investment in India by Foreign Institutional Investors

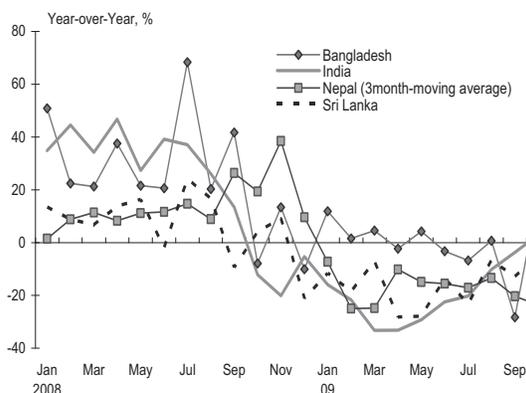


Source: Securities and Exchange Board of India.

The latest export data point to stabilization of about 0% growth in Bangladesh, -15% in Nepal, -20% in Sri Lanka and, if confirmed, early signs of an inflection point in India following a minimum of -30% growth in April 2009 (Figure 4). Maldives experienced a contraction of tourism of nearly 4.9% starting in January 2009 (reflecting the delayed impact from forward bookings), which continued—albeit somewhat moderated—through to November 2009.

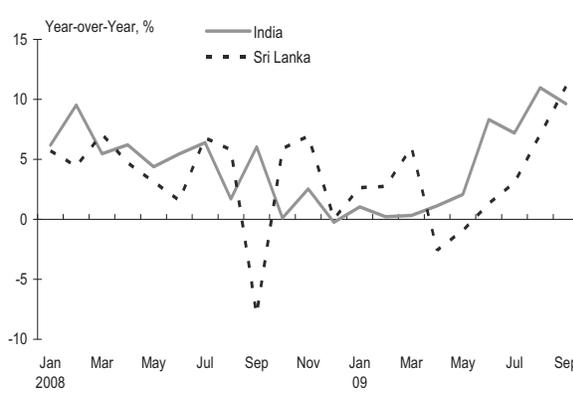
As a result of the credit crunch and weak external demand, industrial production in India and Sri Lanka decelerated, almost reaching zero growth in early 2009 (Figure 5). Since then, there are possible signs of a durable recovery, especially in India.

Figure 4: Export Growth



Source: CEIC Data Company Ltd.; Bangladesh Bank.

Figure 5: Industrial Production Growth



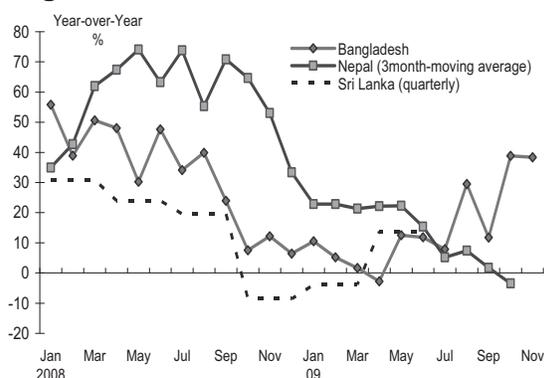
Source: CEIC Data Company Ltd.

On the positive side, workers' remittances, which play a major role in South Asia, have been a very important stabilizing factor throughout the crisis. As percent of gross domestic product (GDP), remittances account for 20% in Nepal, 11% in Bangladesh, and 7% in Sri Lanka.

Compared to exports, remittance flows showed some initial resilience, buoying domestic consumption demand and the current account balance. However, remittance growth has slowed, albeit maintaining double-digit growth in Bangladesh. In Sri Lanka, remittances declined during Q1 2009, but started to increase in Q2, coinciding with the end of the war (Figure 6).

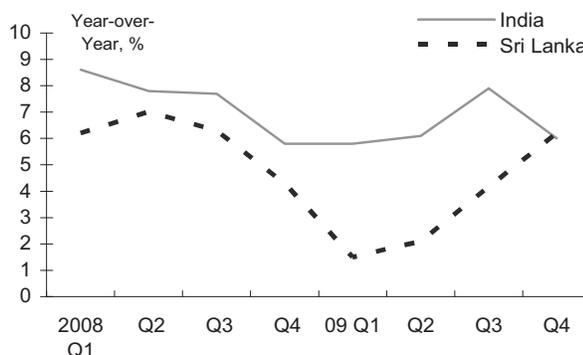
The overall impact of the global crisis—including capital outflow and weak external demand—pushed quarterly GDP growth down to 5.8% (Q1 2009), 6.1% (Q2 2009), and 7.9% (Q3 2009) in India and 1.5% (Q1 2009) and 2.1% (Q2 2009) in Sri Lanka (Figure 7). As the effect of salary arrears of the government employees on the services sector growth disappeared and agricultural growth plummeted due to drought, India's fourth quarter growth declined to 6.0%. However, the manufacturing sector recorded an impressive broad-based growth of 14.3% in the last quarter, corroborating the revival of business confidence. In terms of Sri Lanka, its GDP is estimated to recover at a steady growth of 4.2% (Q3 2009) and 6.2% (Q4 2009), driven largely by increases in services and manufacturing.

Figure 6: Remittance Inflow Growth



Sources: CEIC Data Company Ltd.; Bangladesh Bank; Nepal Rastra Bank.

Figure 7: Quarterly GDP Growth

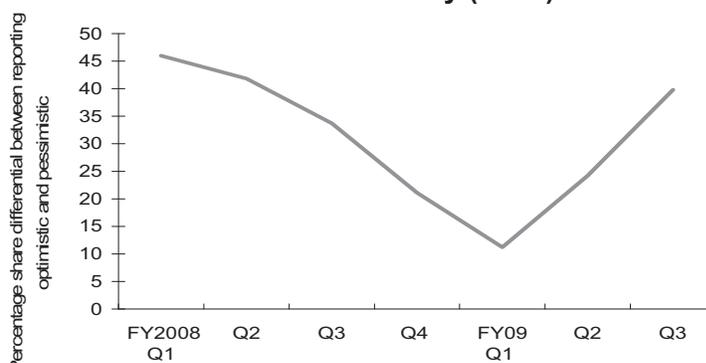


Sources: Central Statistical Organisation, Ministry of Statistics and Programme, India; Department of Census and Statistics, Sri Lanka.

This may signal a possible bottoming of the economic downturn in these two countries sometime in Q1 2009. If so, it follows that, compared to other regions in Asia, the downturn in these two countries and South Asia more generally appears to have been rather shallow. However, it is still too early to conclude that the region has begun a sustained recovery. Indeed, given India's and Sri Lanka's links with the G3, full recovery is dependent on improvements in the global economy.

In business sentiment, recent surveys suggest improvement in India. The Dun & Bradstreet Business Expectations Survey reports a 41% rise for the period July–September 2009 over April–June 2009. The Confederation of Indian Industry bi-annual business outlook survey for April–September fiscal year (FY) 2009 improved considerably. The Industrial Outlook Survey of Reserve Bank of India (RBI) conducted in April–May 2009 suggests a turnaround (Figure 8). And lead indicators and other information such as the Purchasing Managers Index (PMI) also point to a revival.

Figure 8: Reserve Bank of India's Quarterly Industrial Outlook Survey (India)



Source: Reserve Bank of India.

Growing business confidence is primarily attributed to (i) reduced stress on financial markets with partial easing of credit availability, (ii) political stability, (ii) large fiscal stimulus (including pay revision of central government employees) from the central government in FY2008 and in FY2009, and (iii) the improved financial performance of the corporate sector in Q1 FY2009 due to lower input costs and de-stocking of inventories.

4. THE EFFECTIVENESS OF FISCAL AND MONETARY POLICIES

4.1 What Was the Objective of the Stimulus Policies?

The main goal underscoring fiscal stimulus was to support aggregate demand through measures targeting the domestic economy. These focused on increasing consumption—both private and public—and investment to compensate for declining external demand. Stimulus measures in Bangladesh and Sri Lanka had a narrower focus, supporting producers (farmers and exporters) through higher subsidies. But in India, stimulus packages were more comprehensive, covering demand side measures stimulating consumption through lower taxes and supply side measures including tax cuts and relaxation of constraints to funding. Bangladesh and India, which faced national elections, were also under added pressure to maintain high growth. For Nepal and Maldives, meanwhile, exceptional fiscal stimulus measures were limited in the wake of the global crisis. The latest budget in Nepal focuses on rather long-term structural issues such as the improvement of the investment climate, the energy crisis, and weak budget implementation and project management, among others. The latest revised budget in Maldives tries to rationalize expenditure within a constrained resource envelope while introducing new tax measures to increase and diversify revenues.

Against this backdrop, the effectiveness of fiscal policy is best assessed against the capacity considerations of the economy, the type of stimulus, forms of financing of the deficit, and, more generally, leakage affecting the size of the fiscal multiplier. Fiscal stimulus is likely to have a greater impact on aggregate demand when the economy has idle resources and is facing a positive output gap. Otherwise, the impact may translate into higher inflation. Additional public spending is likely to have a greater impact on aggregate demand, as compared to a reduction in taxes, to the extent that it leads to a timely increase—partly or fully—in consumption (see section 4.2). The fiscal multiplier is lower in the event of possible leakage, including (i) additional

spending that leads to increased imports, and (ii) additional income that leads to increased savings and not spending.¹¹

In the medium to long term, fiscal expansion may dampen or crowd out private investment as increased competition for loanable funds from the government may bid up interest rates. Crowding-out is more likely to occur when (i) national savings are less than national investment, and (ii) there is greater competition for loanable funds.

4.2 Was Fiscal Policy Effective?

The emerging consensus is that, as a general principle, fiscal stimulus measures are more likely to be effective if they are (i) enacted in a timely manner, (ii) well targeted, and (iii) temporary—the “three ‘T’s” of effective fiscal policy.¹²

- (i) **Timeliness.** The main criticism of fiscal policy as a stimulus measure is the difficulty in the timing of the policy—often requiring legislation or approval from parliament, which may undermine quick implementation. For example, additional expenditure for projects may take time before the money is actually disbursed—sometimes more than a few months and, in the case of measures to support investment, new projects may require long gestation periods. Tax cuts, in contrast to spending measures, may have a more immediate impact.
- (ii) **Targeted.** This principle assesses the effectiveness of fiscal stimulus measures, recognizing that different economic groups behave differently in reaction to the stimulus. If fiscal measures are targeted—as opposed to across the board—achieving the intended impact is more likely and the multiplier is likely to be greater. For example, lower-income households hurt by the crisis are more likely to spend rather than save additional revenue and thus have a larger impact on the economy. The targeted spending in social safety net measures could also be tested—in India, for example, households below the poverty line are well defined—and thereby have a greater impact on the most vulnerable groups in society.
- (iii) **Temporary.** This principle suggests that fiscal stimulus measures are likely to be more effective if they are temporary—and will not contribute to negative effects by bidding up taxes on future generations through a disproportionate build up of debt. It is therefore crucial to have a clear exit strategy for quickly removing the stimulus once economic recovery sets in and before it becomes entrenched among beneficiaries. As said, if it raises the long-run fiscal deficit, it will put upward pressure on interest rates and potentially crowd out private sector investment.

How do the stylized facts in South Asia measure against these considerations? First, the downturn in economic activity while significant, was not overly pronounced—except for Maldives and maybe Sri Lanka—suggesting a positive yet moderate output gap. By component, a large part of the stimulus measures targeted increased public spending at lower income households—particularly through food subsidies—which would translate into higher and timely consumption. On leakage, the South Asian economies are mostly relatively less open, and, due to the nature of the stimulus measures, they are less likely to translate into greater imports. Finally, the economies in South Asia are in a negative net savings position, suggesting possible crowding out of private investment, although this is less likely given the still relatively low real

¹¹ In the extreme, if economic agents perceive increases in future taxes from the stimulus measures, then the multiplier may be zero as agents simply save rather than consume (Ricardian equivalence).

¹² For example, see Elmendorf and Furman 2008 and Corden 2009.

interest rate environment. The next section assesses stimulus measures in South Asian countries under the three T's.

Table 4: Fiscal Stimulus Measures in Bangladesh

	Major Fiscal Stimulus Measures	Timely	Targeted	Temporary
Stimulus package of Tk34.2 billion (0.6% of GDP) (April 2009)	Increased subsidies in agriculture; increased cash incentives for recession-affected sectors (jute, leather, and frozen food); and further allocation for social safety net programs.	Yes. The policy reacted to declining export. Immediate impact expected. The expenditure was immediately disbursed.	Yes. It focused on sectors that suffer and are likely to spend.	Yes. Allocated resource is limited.
Additional measures (May 2009)	Export subsidy (or cash subsidy) was raised for the recession-affected sectors.			No specific allocation or timeframe given.
Budget FY2010 (Jun 2009)—stimulus package of Tk50 billion (0.9% of GDP)	Subsidies and incentives to be continued and expanded.			Not clear. The government may need to consider planning for a clear exit strategy.

FY = fiscal year, GDP = gross domestic product.
Sources: Ministry of Finance, Bangladesh; and news sources.

Bangladesh announced its first stimulus package against the global economic crisis in April 2009, amounting to Tk34.2 billion (0.6% of GDP) and some additional measure in May 2009 (Table 4). Policies included increased subsidies in agriculture; enhanced cash incentives for recession-affected sectors such as jute, leather, and frozen food; and higher allocations for social safety net programs; the budget for FY2010 continued and expanded these measures (worth Tk50 billion or 0.9% of GDP).

The fiscal measures are "targeted" in that they focused on agriculture and recession-affected sectors such as jute, leather, and frozen food sectors, as well as vulnerable people through additional allocations for social safety net programs. The expenditure was disbursed immediately (therefore "timely"). But "temporariness" is not clear. The budget for FY2010 announced in June 2009 continued and expanded these measures, including tax incentives and cash allowances aimed at helping exporters hit by the global economic crisis. The government may need to consider planning for a clear exit strategy, even if for certain policy measures it may be politically more challenging to terminate, such as social safety net spending.

Table 5: Fiscal Stimulus Measures in Sri Lanka

	Major Fiscal Stimulus Measures	Timely	Targeted	Temporary
First stimulus package of SLRs16 billion (0.4% of GDP) (Dec 2008)	Incentives to tea, rubber, cinnamon, and garments export sectors (including fertilizer subsidy).	Yes. Policy reacted to declining export. Immediate impact expected	Yes. It focused on sectors that suffer and are likely to spend.	Not clear. The amount is an estimate and did not intend to limit the expenditure amount.

	Major Fiscal Stimulus Measures	Timely	Targeted	Temporary
Second stimulus package of SLRs8 billion (0.2% of GDP) (May 2009)	Rewards under the Export Development Reward scheme, including 5% export incentives.	Time for processing may be needed, as exporters need to apply and be assessed against eligibility criteria.	Yes. It focused on sectors that suffer and are likely to spend.	Not clear. The amount is an estimate and did not intend to limit the expenditure amount.

GDP = gross domestic product.

Sources: Ministry of Finance and Planning, Sri Lanka; news sources.

Sri Lanka announced two stimulus packages: one in December 2008 and the other in May 2009 worth SLRs16 billion (0.4% of GDP) and SLRs8 billion (0.2% of GDP) (Table 5). Measures targeted the flagging tea, rubber, cinnamon, and garments export sectors for incentives (as well as including a fertilizer subsidy), and boosted rewards under an export development program. It tried to maintain a minimum price of tea leaves and rubber, and kept intact an across-the-board fertilizer subsidy. The VAT refunding period has been reduced to a maximum of 6 months. The stimulus packages are also targeted to agriculture (through a fertilizer subsidy) and the export sector (through rewards under the Export Development Reward scheme), especially the tea, rubber, cinnamon, and garment industries. The actual expenditure to support a minimum price of tea leaves and rubber however was below initially planned stimulus measures—SLRs6 billion so far (as of August 2009)—as the price of tea and rubber recovered, and the fertilizer price went down.

Table 6: Fiscal Stimulus Measures taken in India ^a

	Major Fiscal Stimulus Measures	Timely	Targeted	Temporary
India first stimulus package (Dec 2008)	Additional plan expenditure up to Rs200 billion (0.4% of GDP) in FY2008 for rural infrastructure and social security	Policy actions taken timely. Implementation may take time.	Not targeted for any specific sector.	Yes. Allocated resource is limited.
	Tax cut of CENVAT by 4%, and 2% in the service tax.	Yes. Immediate impact expected.		Not clear. Could be politically difficult to terminate.
	IIFCL raise Rs400 billion through tax-free bonds.	Implementation may take time.		Yes. Allocated resource limited.
	Full refund of service tax paid by exporters to foreign agents.	Yes. Immediate impact expected.	Yes. Focus on exporters.	Yes. Allocated resource limited.
India second stimulus package (Jan 2009)	State governments borrow an additional 0.5% of GSDP in FY2008 and further in FY2009.	Timeliness of impact depends on policy measures at states.	Not targeted for any specific sector.	Yes. Allocated resource is limited.

	Major Fiscal Stimulus Measures	Timely	Targeted	Temporary
India third stimulus package: (Feb 2009)	Central Excise Duty general rate and Service Tax rate reduced.	Yes. Immediate impact expected.	Not targeted for any specific sector.	Specific allocation or timeframe not found. Could be politically difficult to terminate.
	States allowed deviation from fiscal consolidation targets beyond March 2009.	Timeliness of impact depends on policy measures at states.		Yes. Deviation is allowed for FY2009.
India Revised FY2009 Federal Budget (June 2009) —fiscal deficit remains high (6.8% of GDP)	Accelerated public investment in infrastructure (Bharat Nirman, JNNURM, NHDP, etc)	Timeliness of impact depends on the time taken for implementation.		Not clear. The actual exit strategy from fiscal expansion is however not clear, though the medium-term fiscal policy statement targeted to decrease fiscal deficit to 5.5% in FY2010 and 4.0% in FY2011.

CENVAT = Central Value Added Tax, FY = fiscal year, GDP = gross domestic product, GSDP = gross state domestic product, IIFCL = India Infrastructure Finance Company Ltd., JNNURM = Jawaharlal Nehru National Urban Renewal Mission, NHDP = National Highways Development Project

^a FY before a particular year, say, 2008, indicates 1st April 2008 to 31 March 2009.

Sources: Ministry of Finance, India; and news sources.

The stimulus packages in India consist of various policy measures (Table 6). The first package included (i) additional plan expenditure; (ii) tax cuts; (iii) tax-free bond by India Infrastructure Finance Company Ltd (IIFCL); and (iv) a service tax refund to exporters, among others. The second and third stimulus packages include increased state government borrowing, and reduced central excise duty and service tax. Given the difficulty of translating lower policy rates into lower bank lending rates (see section 4.3), the government intended fiscal policy to take a major role in boosting the economy. Indeed, the revised federal budget for FY2009 adopted a strategy to revive economic growth over the short-term by providing additional fiscal stimulus, with the expectation to generate additional revenue and reduce the fiscal deficit over the medium-term.

Among the policy measures under the first stimulus package, tax cuts can be expected to have a more immediate impact, while additional expenditure may take some time before disbursement starts and works through the system. A refund of service tax (export subsidy) is targeted at exporters (which suffer from weak exports), but other measures are considered general interventions.¹³ The timeliness of additional state borrowing and the resulting deviation from the fiscal consolidation targets (second and third stimulus packages) is less clear and depends on specific policy measures taken by the states.

Fiscal measures that addressed specific sectors in Bangladesh and Sri Lanka are in general well targeted. Some measures however did not have specific expenditure ceiling or timeframe, leaving some concern on temporality. In case of India, while the medium-term fiscal policy statement as of July 2009 targeted to decrease fiscal deficit to 5.5% in FY2010 and 4.0% in FY2011, the actual exit strategy from the general demand stimulus is less clear. In countries such as Sri Lanka—which had large fiscal deficits coming into the global crisis—the authorities were responsive to the limited fiscal space available and, to no surprise, introduced much more moderate fiscal stimulus packages.

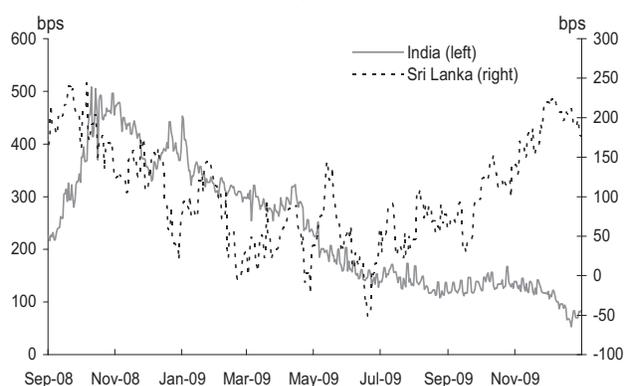
¹³ The effectiveness of the service tax reduction could be questioned on the grounds that demand for exports from India is limited.

4.3 Was Monetary Policy Effective?

Monetary policy sought to mitigate the impact of the global crisis in two steps. In the first, central banks pumped liquidity into the banking system, mainly through the call market, as the money markets seized, reflecting inherent counterparty credit risks.¹⁴ Once the money market stabilized, the monetary authority moved to the second step to address the credit crunch.

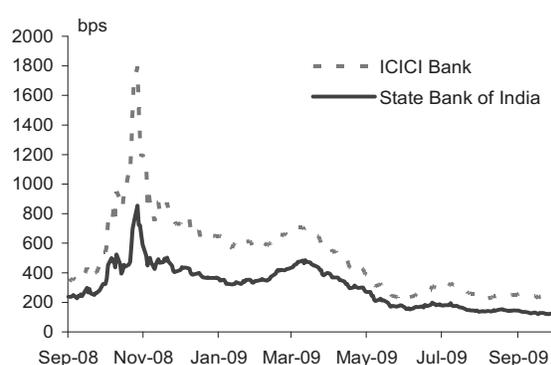
Central bank liquidity injections in the money markets in India and Sri Lanka helped stabilize the financial system. Ted spreads, representing the difference between 3-month interbank offered rate and T-bill yield of the same maturity (which indicates banks' liquidity premia), have gradually come down, with the premium in India below the level at the time of the outbreak of the crisis in early September 2008 (Figure 9). Credit Default Swap (CDS)—another indicator of credit risk—of banks in India sharply increased in October–November 2008 but has now settled down to pre-crisis levels (Figure 10).

Figure 9: Ted Spread (India and Sri Lanka) and Selected Credit Default Swap (India)



Source: Bloomberg.

Figure 10: Credit Default Swap for Banks in India



Source: Bloomberg.

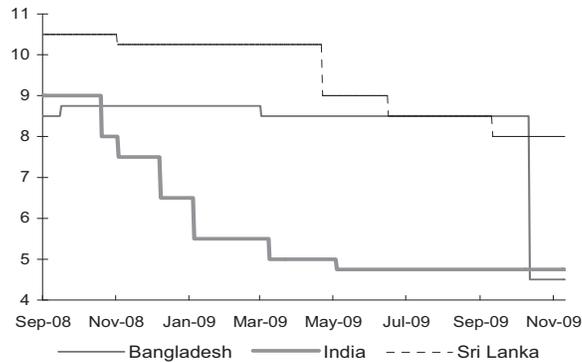
From liquidity management measures, monetary policy then turned to addressing the credit crunch. In an attempt to boost economic activity, monetary authorities cut policy rates to lower lending rates and facilitate bank loans to the private sector, the dominant source of credit in South Asia. In India, for example, the strong retail deposit base accounts for about 75% of total bank funding.¹⁵

In 2009, governments adopted a more accommodative monetary policy stance—aided by the rapid easing of inflationary pressures resulting from the decline in global economic activity, including rapid decline in oil prices—and lowered policy rates to boost investment and growth (Figure 11).

¹⁴ Brunnermeister (2009) argues that the over-the-counter nature of transactions of structured products led banks to hoard in response to the uncertainty about the financial soundness of the counterparty concerned. This is fundamental to understanding how the resulting negative network externalities translated into systemic risks across the US and Europe.

¹⁵ See ADB 2009b.

Figure 11: Policy Rates (Repo Rates)



Sources: Bangladesh Bank; Reserve Bank of India; Central Bank of Sri Lanka.

Prompt and decisive action by RBI led to a lowering of India's repurchase (repo) rate by 425 basis points since September 2008 (including a 25 basis point decline in April 2009). Sri Lanka's central bank—with less room to cut given higher and seemingly more persistent inflation—cut its repo rate by 200 basis points in April 2009. In September 2009, Sri Lanka's central bank again reduced policy interest rates by 50 basis points each, putting the repo rate down to 8% and reverse repo rate to 10.5%, to encourage lower market interest rates.¹⁶ Bangladesh began reversing tight monetary policy in March 2009, lowering the repo rate by 25 basis points. In October 2009, Bank Bangladesh reduced the repo rate from 8.5% to 4.5% in a bid to ease the cost of credit and help boost investment in the economy.¹⁷ Countries with a currency peg against the Indian rupee (Bhutan and Nepal) have in general been able to benefit from the accommodative RBI monetary policy.

Policy rate hikes (or cuts) however tend to be associated with a rise (or lowering) of lending rates. To understand how rate cuts impact an economy, it is important to review the main transmission channels of monetary policy. These include

- (i) direct interest rate channel—higher interest rates for firms and households discourages spending;
- (ii) indirect interest rate channel—higher interest rates weakens stock and housing markets, causing a negative wealth effect on consumer spending (perhaps more applicable to advanced economies)
- (iii) balance sheet channel—higher interest rates reduces the value of homes and stocks, resulting in lower value of collateral (financial accelerator); and
- (iv) exchange rate channel—higher interest rates raises the value of the local currency and shifts spending from the domestic economy to imports.

Against this backdrop, policy rate cuts in India for various reasons did not lead to a rapid lowering of lending rates.¹⁸ These can be grouped into three broad categories: supply side factors, demand side factors, and, possibly, institutional and/or structural factors. The supply side factors include (i) a higher perceived risk of borrowers operating in an uncertain business environment, and (ii) a premium on liquid assets following the liquidity shortage after the crisis. The demand side factors include (i) increased demand for funds by corporates shifting from overseas borrowing to domestic sources, by SMEs to maintain cash flow under economic

¹⁶ It is likely that monetary accommodation in Sri Lanka was not as aggressive as in India because it had higher inflation and there was concern about containing pressure on the foreign exchange rate.

¹⁷ The aggressive response later in the cycle may raise concern about inflationary pressures, as Bangladesh maintains a reasonable growth rate of 5.9% in FY2009, though slowing down.

¹⁸ Also refer ADB 2009a.

slowdown, and by the central government; and (ii) reduced demand for bank credit due to widespread economic uncertainty. The institutional and/or structural factors may include (i) banks' recent high-cost borrowing, needing some time to adjust to a more accommodative monetary policy; and (ii) the downward rigidity of bank deposit rates because of the interest rate floor available in small savings schemes run by post offices and provident funds. Moreover, if there is a weakening of assets underlying the value of the collateral following a financial shock, then for a given decline in policy rates, there may not be an associated decline in lending rates. Banks on the other hand, will charge a higher premium. If indeed the resulting bank capital provisioning requirement increases, on the supply side, banks are likely to be less willing to pass the policy rate cuts into lending rates, thereby effectively raising the margin that banks charge over funding costs. That is, the spread over the policy rate adjusts to the increasing uncertainty in the economy. This may have been the case immediately following the crisis.

According to the Government of India (2009) credit uptake in the period October 2008–March 2009 was sluggish on the supply side due to global economic conditions, with many international banks teetering on the edge, and on the demand side to global economic conditions in which companies did not want to take on additional debt in a climate of uncertainty and where consumers were postponing home and automobile purchases given the uncertain economic outlook and anticipation of further reductions in interest rates.

It is difficult to assess the weight of each of these factors, especially through time. What is important to understand is that the monetary transmission mechanism—particularly the impact from changes in the policy rates to changes in the lending rates—depends on the net effect of all these factors. For example, when supply is constrained, banks will generally have no incentive to reduce lending rates, when demand is constrained they could reduce lending rates, provided institutional and/or structural factors do not prevent them from doing so.

4.4 Was Credit Demand or Supply Constrained?

Non-food bank credit in India is modeled on a disequilibrium framework that makes it possible to ascertain whether bank credit is determined by demand (by borrowers) or if it is determined by the availability of loanable funds with the commercial banks (by lenders). Disequilibrium in the credit market is a well-researched topic in the literature. Lending rates rarely equilibrate the demand for and supply of bank credit. Another way to check the presence of disequilibrium hypothesis in the Indian context is to evaluate the transmission of monetary policy.¹⁹ This is what RBI noted in its Annual Policy Statement for FY2009.

Thus, the model is as follows:

$$\begin{aligned}
 C^d &= \phi(z) \\
 C^s &= \varphi(W) \\
 C^a &= \text{Min}(C^d, C^s)
 \end{aligned}$$

Where C^d , C^s , and C^a are demand for non-food bank credit, supply of bank credit, and actual disbursement of credit, respectively. Z and W are different sets of explanatory variables. Z includes expected output growth and cost of borrowing. W includes availability of loanable funds and costs of borrowing. Cost of borrowing on the other hand, depends on the benchmark lending rate and the risk premium. Risk premium, in turn, is a function of output and inflation

¹⁹ As Hurlin and Kierzenkowsk (2003) argued, a disequilibrium in the credit market could be consistent with a sticky or lagged price response from policy to lending rates.

variance. We estimate the above model by the maximum likelihood technique as developed by Nelson and Maddala (1974) to derive the unconditional probability of $C^d < C^s$.

The empirical exercise requires that the demand and supply sides of the market for bank credit be modeled in the best possible manner, given the constraints involving availability of data. In the context of credit rationing or the lack of demand for credit, the appropriate dependent variable is arguably the growth rate of credit, as opposed to the absolute value of the same. Indeed, the absolute value of credit increased during the time period under consideration. However, growth in bank credit remained low from 1 month to the next. Hence, the growth rate of credit (GCREDIT) has been used as the dependent variable in our model.²⁰

As mentioned earlier, demand for credit depends on two factors: cost of borrowing and perception of economic activity. It is assumed that past and present growth in the index of industrial production (GIIP) will provide a measure of expectations about the future rate of industrial growth as a proxy for economic activity. Indeed, under the assumption of partial perfect foresight, some average of the past and present rates of growth of the index should be equal to the projected future rate of growth. Hence, a simple average of the present rate of growth of the index, and five previous months' growth of the same, has been used as a measure of expectations about the future rate of growth for the (manufacturing) industry. This variable is denoted by GIIP.²¹ Cost of borrowing, on the other hand, is dependent on prevailing lending rates, which are themselves sums of some base (or risk free) rate and a risk premium.²²

The aforementioned risk arises out of the following factor. While the index for industrial production might have an upward trend in general, there might be significant volatility in the context of industrial growth, higher volatility being traditionally associated with higher risk. In other words, the standard deviation in the index is a measure of the sector specific risk, and in this case would reflect the risk faced by manufacturing industries. Hence, the standard deviation of the index for the present month and five previous months taken together can be accepted as a reasonable measure of risk. In addition, as earlier explained, it also depends on bankers' perception of inflation risk. The risk premium charged by banks can be assumed to be some linear function of this risk, and hence it can be further assumed that the measure of risk discussed above can itself be used in lieu of the risk premium. This yields the second independent variable, namely, RISK.

The banks, however, not only take the lending rates into consideration, approximated by RISK (see also footnote 23), they are also constrained in their ability to supply credit by their deposit base. Specifically, the growth of credit supplied by banks is critically dependent on the growth in the volume of deposits which, net of the cash reserve ratio (CRR) and the statutory liquidity ratio (SLR) requirements, determines the extent to which the banks can lend. In other words, GCREDIT from the supply side is determined by the growth in the loanable funds of the banks (GLOANF).²³ The specification of GLOANF also enables us to capture the post-financial-crisis changes in CRR and SLR. We also tried two dummy variables; one in the demand function to examine the effect of the drying up of the funds from nonbank sources, including external commercial loans after the financial crisis; and the second one in the supply function to assess the impact of the changes in the short-term policy rates on supply of bank credit. However, both the dummies turn out to be statistically insignificant. The regression results are summarized in Table 7.

²⁰ GCREDIT is the non-food credit to the commercial sector and does not include credit to the government.

²¹ Alternatively, one could argue that entrepreneurs will form their expectations about future output growth based on a set of relevant forward looking macroeconomic variables such as perception surveys.

²² The base rate (or the prime lending rate) seldom varies over months.

²³ Sometimes banks' investment in government securities exceeds what is required under the statutory requirement; Ideally, one should take the actual investment in government securities while deriving GLOANF. Unfortunately, up-to-date monthly data are not available. Therefore, we have taken the stipulated SLR. In other words, $GLOANF = \text{deposit} \times (1 - CRR - SLR)$.

Table 7: Switching Regression- Maximum Likelihood Estimates

Dependent variable: Growth in non-food bank credit		
	<i>Demand function</i>	<i>Supply function</i>
Constant	28.52 (3.53)	19.85 (5.45)
GIIP	1.81 (3.75)	
RISK	-0.86 (-1.6)	-0.24 (-1.93)
GLOANF		0.57 (2.56)

Time period: January 2008 to July 2009.

Figures inside parentheses are t-values

Source: Authors' estimates.

The results indicate that, other things being equal, the growth in demand for credit is negatively related with the risk premium and increases with the expected growth of the manufacturing sector. Expected industrial production turns out to be a significant explanatory variable with a positive significant coefficient implying that demand for credit is highly correlated with macroeconomic performance.²⁴ In addition, the results show that the supply of credit is also sensitive to the risk premium. The higher the risk premium, the lower the credit provided by the commercial banks. But can supply of credit be negatively related to its price? Indeed it can, in the event the banks fear that high lending rates will lead to adverse selection such that their credit portfolios will become riskier (Stiglitz and Weiss 1981, Bhaumik and Mukhopadhyay 1997). Such credit rationing has been observed in other countries as well (Baltensperger and Dermine 1987). Under the present paradigm, when the banks are required to make provisions for all doubtful and nonperforming loans and maintain a minimum capital adequacy ratio, it is reasonable for them to minimize the risk-to-return ratio of their portfolio.

The estimated parameters have subsequently been used to compute the unconditional probability that²⁵ $GCREDIT = \phi(Z)$, i.e., that the credit market is constrained from the demand side (for any one time period). The estimated probability values for all the months in question are enumerated in Table 8. Since the natural probability of the event that the credit market is demand constrained is 0.5. it can be argued that if the probability for any time period (as in Table 4) is greater than or equal to 0.5, then for that month the credit market was constrained from the demand side. Conversely, if any of the given probabilities is less than 0.5, then for that time period the credit market was constrained from the supply side.

Table 8: Constraints Faced by Credit Market

Months	Probability	Constraint
Jan-08	0.000	Supply
Feb-08	0.001	Supply
Mar-08	0.148	Supply

²⁴ See Ghosh and Ghosh (1999). They used a disequilibrium model in three East Asian crisis countries: Indonesia, Republic of Korea, and Thailand during 1997/98. Ghosh and Ghosh did not find evidence of a credit crunch or supply rationing in the three countries. Like our findings, they also found that banks' lending capacity was positively correlated with credit and was the most influential variable in the credit supply model. As for the demand function, they found that industrial production is the most significant variable.

²⁵ Given the parameter estimates of the demand supply functions, the unconditional probability p that that observed credit belongs to demand constrained regime in any period is $p = \phi(m)$ where $m = (\Theta_2 W - \Theta_1 Z) / \sigma$,

Where Θ_1 and Θ_2 are the parameter estimates of the demand and supply functions respectively, and

$$\sigma = (S_1^2 + S_2^2)^{1/2}, S_1 \text{ and } S_2 \text{ are the estimates of the error variances.}$$

Months	Probability	Constraint
Apr-08	0.213	Supply
May-08	0.581	Demand
Jun-08	0.370	Supply
Jul-08	0.546	Demand
Aug-08	0.702	Demand
Sep-08	0.015	Supply
Oct-08	0.206	Supply
Nov-08	0.339	Supply
Dec-08	0.968	Demand
Jan-09	0.998	Demand
Feb-09	0.999	Demand
Mar-09	1.000	Demand
Apr-09	1.000	Demand
May-09	0.999	Demand
Jun-09	0.999	Demand
Jul-09	0.996	Demand

Source: Authors' estimates.

It can be seen that the post-financial-crisis period can be divided into the regimes in the following ways: (i) during September–November 2008, the credit market was supply constrained; (ii) during December 2008–July 2009 the market was demand constrained.

The reasons for the credit crunch during September–November 2008 are well known. It is not difficult to explain why the quantity of bank credit supplied fell short of the quantity of credit demanded during this period. The failure of Lehman Brothers and a few other global financial institutions in September 2008 saw the abrupt freezing of money-market activities in the major financial centers. To contain the excess volatility in the foreign exchange market, RBI made substantial dollar liquidity available. This tightened rupee liquidity. The impact was magnified on account of domestic factors such as advance tax outflows from the banking system. It may also be noted that as external sources of funds dried up, corporates tried raising rupee funds in the domestic market as an alternative, thereby raising demand for rupee funds and hence explaining why the market was initially supply constrained. Consequently, the call rate moved above the repo rate in mid-September 2008 (see also Figure 1).

Liquidity improved discernibly as RBI initiated the series of measures to augment liquidity. The weighted average call money rate declined sharply in November 2008.

The demand for funds declined sharply as entrepreneurs preferred to "wait and watch", in many cases, reinforced by de-stocking. More interestingly, despite improved liquidity in the credit market and the demand-constrained regime that emerged since December 2008, actual lending rates did not decline commensurately (Table 9). Other things being equal, commercial banks should have reduced the lending rates adequately to take advantage of a demand-constrained regime.

Table 9: Actual Lending Rates (%)

Type of Bank	Sep 2008	Dec 2008	Mar 2009
Public Sector	6.00–18.75	5.25–18.00	3.50–18.00
Private	5.06–23.00	5.06–30.00	4.75–26.00
Foreign	5.00–25.50	5.00–26.00	5.00–25.50

Source: Reserve Bank of India.

Our results do not support the existence of credit crunch (i.e., interest rates do not clear demand and supply and the observed credit is constrained by supply) for business loans in recent months.²⁶ Credit risk for corporate clients was reflected in variations in the risk premia attached to lending rates, rather than by direct rationing. Credit disbursement growth has been constrained by demand since December 2008.

What then explains downward rigidity in the lending rates? As discussed in section 4.3, this points to structural factors that set the floor for lending rates, thereby reducing the effectiveness of monetary accommodation.

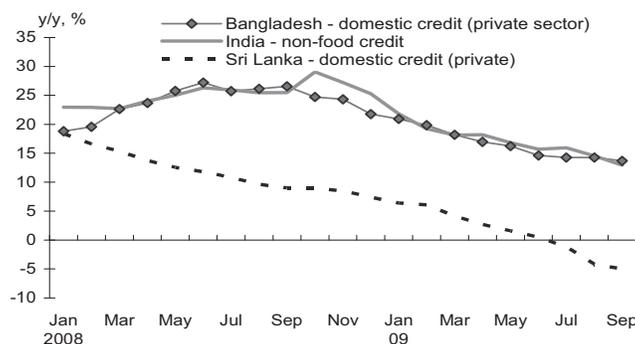
In Sri Lanka, the real lending rate appeared to be a more influential factor in the demand for credit equation, with the growth in industrial production index being marginally significant (Appendix Table 1). As for the supply equation, lending rates and growth in the loanable funds all appeared to be significant. Results further suggest that credit demand was also the binding constraint behind credit growth from January 2009 onwards (Appendix Table 2).

5. IMPLICATIONS OF POLICIES UNDERTAKEN

5.1 Are Crowding-Out Effects a Concern?

Sri Lanka's credit to private sector continued slowing down after the global economic crisis and annual growth reached 0.5% in June 2009 (Figure 12). On the other hand, credit to private sector in India while declining, continues to grow (so did the money supply) registering just below 15% growth rate in September 2009.²⁷ (See Appendix 1 for the breakdown of credit in India across components and across types of commercial banks.) In the case of Bangladesh, we observe the same pattern of credit growth. As previously discussed, this decline in credit growth is primarily associated with the credit demand constraint, especially in the case of India and Sri Lanka (Table 8).

Figure 12: Credit to the Private Sector



Source: CEIC Data Company Ltd., Reserve Bank of India.

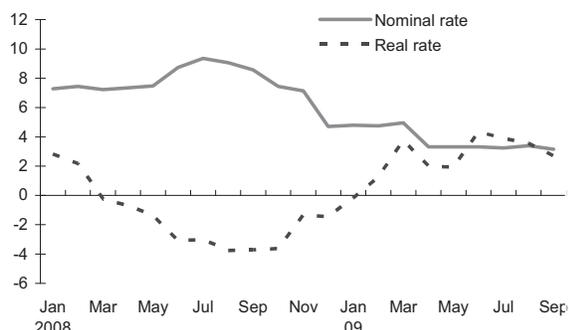
Despite a demand constrained credit regime from 2009 onwards, the benchmark yield has been rising on the strength of the government borrowing program (Figures 13 and 14). It is expected that the yield will harden further for the following reasons. First, as the economy recovers, the demand for credit by the commercial sector will certainly pick-up. Second, as the central bank begins to ease monetary accommodation, this will lead to higher yields across the maturity

²⁶ However, we do not rule out the possibility that individual firms are unable to obtain credit at the prevailing rate at the micro level. Even firms may not get bank credit at the high interest rate due to informational asymmetries, as suggested by Stiglitz and Weiss (1981).

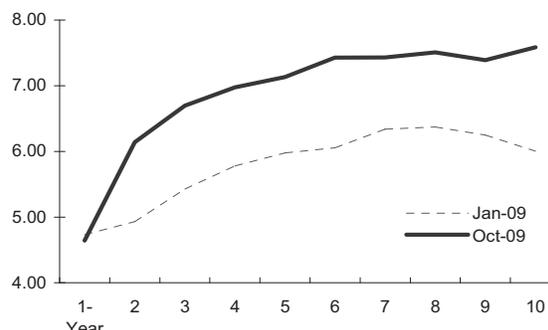
²⁷ RBI data as of 20 November 2009 point to bank credit to commercial sector having declined to 10% from 27% in October 2008.

spectrum.²⁸ Our discussion in the previous paragraph suggests that crowding out could be a serious concern attributed to both quantity and price factors.

Figure 13: 91-day Treasury Bills Yield (India) **Figure 14: Government Securities Yield (India)**



Source: CEIC Data Company Ltd.

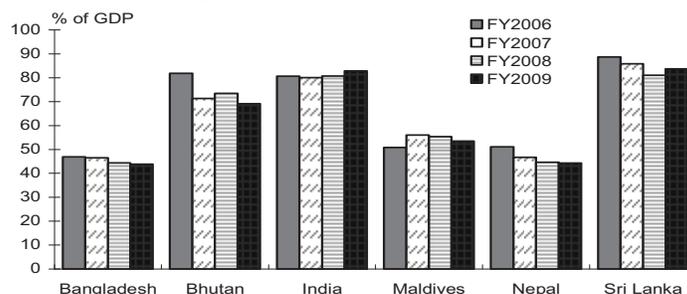


Source: CEIC Data Company Ltd.

5.2 What are the Longer-Term Implications?

While governments took fiscal policy measures to mitigate weak global demand in the short-term, the policy measures taken also have long-term implications on debt dynamics. Although most South Asian countries were in the process of fiscal consolidation in the last few years, debt-to-GDP ratios remain high, albeit decreasing somewhat in the last few years (Figure 15). In the case of India, Kumar and Vashisht 2009 highlights that government borrowing, given the expansive budget, will increase to \$65.3 billion in FY2009–10 from \$25.3 billion the previous fiscal year. FY2009/10 government borrowing is likely to increase to \$80.1 billion. Debt servicing, accounting for 58% of total current revenue in FY2008–09 in India is likely to rise further in FY2009/10 and likely to put further pressure on market interest rates. As discussed above, fiscal space in some countries had been reduced due to expenditures to mitigate the impact of higher international commodity prices in mid-2008, leaving governments less room for fiscal stimulus. In addition, automatic stabilizers are leading to a slowing of growth in fiscal revenues and widening fiscal deficits.²⁹

Figure 15: Debt-to-GDP Ratio



FY = fiscal year, GDP = gross domestic product
 Source: International Monetary Fund; Ministry of Finance, India;
 Maldives Monetary Authority; Central Bank of Sri Lanka.

Over the cycle, it is therefore critical that fiscal stimulus measures are designed to run a fiscal balance or perhaps a small deficit to finance investment (the golden rule) and thereby minimize

²⁸ Furthermore, the yield curve could also rise due to high inflation expectations.

²⁹ The fiscal deficit in India (including states) is estimated to increase to 11% of GDP in 2009, while in Sri Lanka, the International Monetary Fund Stand by Facility has established a ceiling of the central government budget deficit of 7% of GDP.

the fiscal cost over the long-run. We estimate a vector auto regression (VAR) model using data from India to show the time taken by gross fiscal deficit (GFD) to return to its normal level after a shock in expenditure. The VAR structure is as follows:

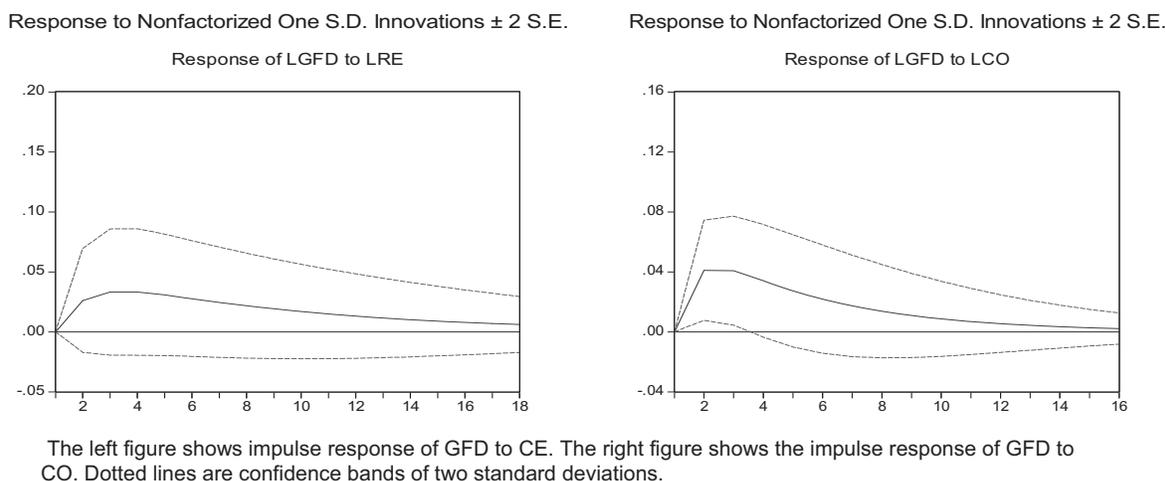
$$Y_{it} = \sum_{i=1}^2 \alpha_i Y_{it-1} + \sum_{k=1}^2 \beta_k Z_{kt} + e_t$$

where y_{it} represents a vector of endogenous variables in year t, z_{kt} is a vector of exogenous determinants, and e_t is a random disturbance term. Current expenditure (CE), GFD, and capital outlays (CO) were used as endogenous variables. The current revenue (CR) is used as the exogenous variable. All variables are for the central government and expressed in natural logarithm. The time period selected is FY1970 to FY2006. One period lag was decided based on the Likelihood Ratio test, Akaike's information criterion, Schwarz information criterion and Hannan-Quinn information criterion.

The estimated VAR structure is used to derive the impulse response function. The impulse response functions show that a shock to the i-th variable not only directly affects the i-th variable but is also transmitted to all of the other endogenous variables through the dynamic lag structure of the VAR. An impulse response function traces the effect of a one-time shock to one of the innovations (e_t) current and future values of the endogenous variables. For stationary VARs, the impulse responses should die out to zero.

In fact, a look at the impulse responses of gross fiscal deficit over a long period reveals that (i) the impact of an increase of capital outlays or revenue expenditure persists over a long period before it dies out, and (ii) that the impact is much sharper in the case of capital outlays than revenue expenditure. This clearly illustrates the importance of the renewed focus on fiscal consolidation. Without a serious attempt to bring down fiscal deficits, it will be difficult to stabilize debt-to-GDP ratios over the medium term.

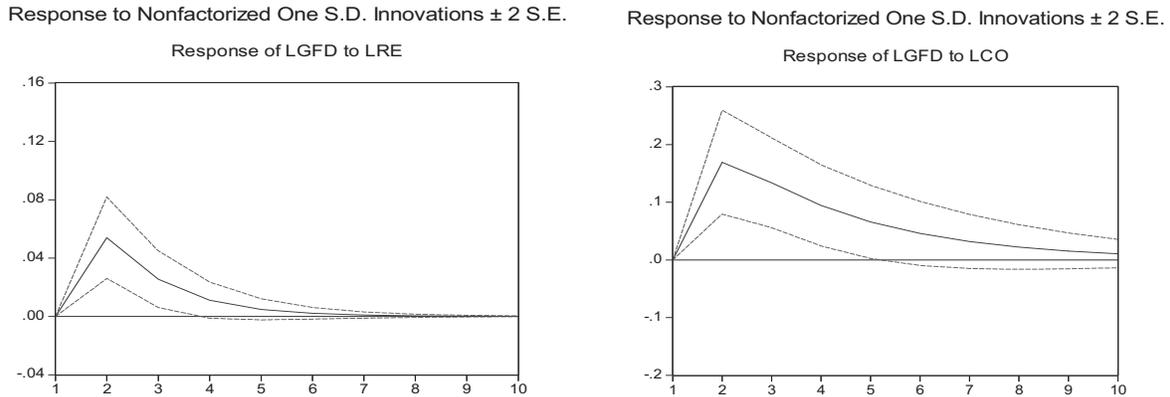
Figure 16: Impulse Response Functions for India



A similar exercise was carried out for Sri Lanka, and figures below clearly reveal that the results are qualitatively identical.³⁰

³⁰ Data used for Sri Lanka span 1959 to 2008. Figure 19 suggests that the impact of an increase in capital outlays or revenue expenditure is much narrower in Sri Lanka than in India.

Figure 17: Impulse Response Functions for Sri Lanka



The left figure shows impulse response of GFD to CE. The right figure shows the impulse response of GFD to CO. Dotted lines are confidence bands of two standard deviations.

While effort should be made to decrease fiscal deficits, it is also important to continue structural reforms to increase economic growth to maintain debt sustainability. The behavior of debt is defined in a debt dynamics equation as follows:

$$\Delta \left(\frac{D}{Y} \right)_t = \left(\frac{r - g}{1 + g} \right) \left(\frac{D}{Y} \right)_{t-1} - \frac{PB_t}{Y_t}$$

where D =debt stock, Y =GDP, r is nominal average cost of debt, g =nominal growth rate of GDP, and PB =primary fiscal balance. The subscript t and $t-1$ indicate the time of the variable.

Debt stabilizing primary deficit as a share of GDP (pb^*) could be obtained by solving the equation with the left hand side equal to zero. pb^* is expressed as a function of g , r and debt-to-GDP ratio in a previous period (d_{t-1}). On the space of pb^* and g , (Figure 18), the curve will take a downward slope crossing the g -axis at $g=r$. Debt-GDP ratio defines the slope, i.e., steep when d_{t-1} is large. g and r can be replaced with real GDP growth and real average cost of debt without changing the shape of the curve.

Figure 18: Debt-Stabilizing Primary Deficit (pb^*) and Nominal GDP Growth Rate (g)

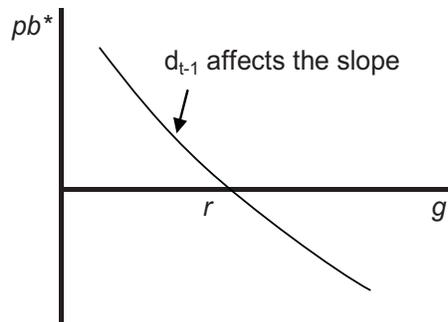
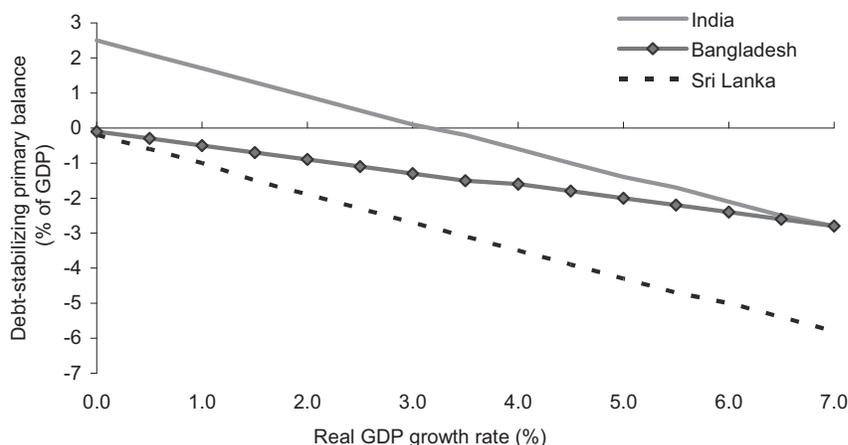


Figure 18 tells us that, for a given level of primary balance (deficit net of interest payments), the ability to stabilize or decrease debt (as a share of GDP) depends on the difference between GDP growth in the economy and underlying interest rates. Policy makers will therefore have to consider the following:

- (i) **Improving primary balance (i.e., fiscal consolidation) once the economy recovers.** Fiscal stimulus should therefore be temporary—either by limiting allocated resources, or setting a defined timeframe for the measure. The composition of fiscal adjustments would be important in effectiveness and sustainability of the measures.³¹ Legal frameworks such as a fiscal responsibility act would provide credibility to government's commitment to revert to the fiscal consolidation path.³²
- (ii) **Setting conditions to support increasing the economic growth rate.** Economic growth has contributed in the last few years to a lower debt ratio in developing countries, largely reflecting automatic stabilizers. It would also generate more fiscal revenue to be used for debt repayment. To regain economic growth, structural reform should be continued.

Figure 19 shows examples of the combination between the real growth rate and primary balance, which stabilizes the debt-to-GDP ratio. Higher economic growth allows governments to decrease debt as a share of GDP. Sri Lanka could have a larger primary deficit while stabilizing debt compared to Bangladesh and India (thus it could more easily decrease the debt-to-GDP ratio). This is because Sri Lanka's average interest rate on its debt outstanding is lower than in India and Bangladesh. India and Sri Lanka also have steeper trade-off curves, which indicate that, when growth slows, their primary deficit should be decreased more than Bangladesh will require to stabilize the debt payment. This is because India and Sri Lanka have larger debt stocks compared to Bangladesh.

Figure 19: Combination of Primary Balance and Growth which Stabilizes Debt Level



Note: It is assumed that India and Bangladesh maintain the debt-to-GDP ratio at the level of FY2009, and Sri Lanka at 2010. Data of average cost of interest rates for debt outstanding are based on International Monetary Fund Debt Sustainability Analysis.

Given the primary deficit of 3.5% of GDP in India—it is a more moderate 1.7% in Bangladesh and 0.8% in Sri Lanka—the analysis clearly reveals that unless the primary deficit is reduced significantly, a sustainable level of debt cannot be achieved over the near future.

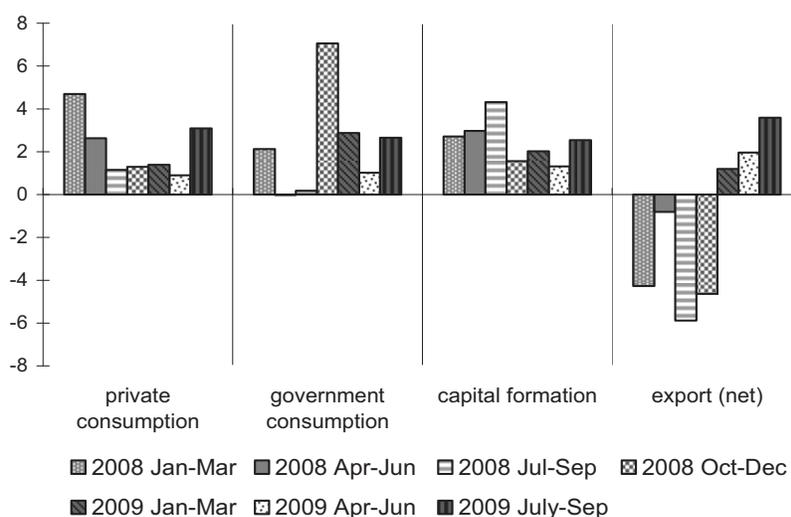
³¹ See Carrasco and Choi 2006.

6. WAY FORWARD

6.1 What Does the Latest Growth Data in India Reveal? ³³

India's GDP grew 7.9% year-on-year during July–September 2009—an 18-month high and better than expected—a preliminary sign of economic recovery after a slow-down in the previous three quarters. Growth was driven by consumption. According to the demand-side decomposition, private consumption rose remarkably while gross fixed capital formation did not show signs of recovery. While gross exports were still declining, the contribution by net export has been increasing due to a drop in imports from a high-base effect. Government consumption also remained strong, as India continues to implement across-the-board general fiscal stimulus. It is likely that higher payments of public salary arrears under the 6th Pay Commission recommendations helped maintain the growth in government consumption. Even the buoyancy in private consumption could be attributed to the salary hikes. It is also interesting that gross fixed capital formation appears to have reacted little to the stimulus measures, despite recent improvement in business confidence. It seems that investors remain risk averse. Slower credit growth to the private sector also corroborates this fact. To ensure sustainable economic growth, it is critical that investment recovers. A sound macroeconomic environment is an important prerequisite for promoting private investment. Failure in policy coordination and persisting uncertainties will certainly have an adverse impact on private investment.

Figure 20: Breakdown of Quarterly Gross Domestic Product, India (%)



Source: Central Statistical Organization, Ministry of Statistics and Programme, India.

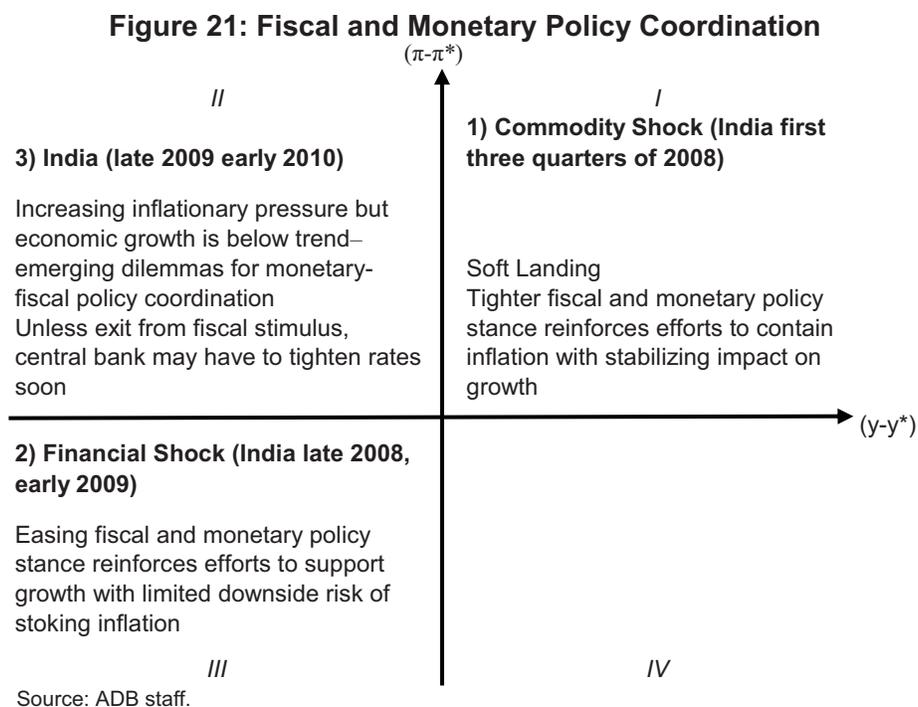
6.2 How to Coordinate Fiscal and Monetary Policy?

Macroeconomic stability is an important requirement for a durable recovery in growth. Fiscal and monetary policy, coordinated and well-synchronized, can be very effective in macroeconomic management, especially in a time when there are conflicting policy priorities (e.g., inflation control versus countercyclical stimulation, exchange rate intervention versus inflation moderation). However, given the monetary authorities' dual objectives of inflation stabilization and economic growth, coordination often proves difficult, and is often compounded by the increasing autonomy of central banks and the interest to exercise this autonomy. In other

³³ This analysis has not been carried out for the fourth quarter (October-December) of 2009 because comparable new series quarterly data are not available for the first quarter (January-March) of 2009.

instances, the divergence of fiscal and monetary authorities may be traced to a different forecast of growth and inflation, perhaps reflecting a different model of the economy or even a more nuanced balance of risks to these policy goals.

Figure 21 presents a simple breakdown of fiscal and monetary policy coordination covering the various combinations of output growth and inflation that characterizes the business cycle. In the run-up to the crisis starting in September 2008, a decelerating global economy was putting downward pressure on inflation. In this case, fiscal and monetary policy easing reinforce each other to provide combined countercyclical stimulus to support aggregate demand and supply, albeit with possible distinct lags of policy actions on goals. In the current situation, amid early, albeit uncertain, signs of economic recovery, policy makers face a possible dilemma. Too much fiscal easing or a slow removal of the fiscal stimulus may lead to a quick uptick in inflation and force monetary authorities to raise interest rates sooner than they would otherwise choose. Alternatively, too-rapid removal of monetary accommodation may stall economies and prolong downturns. How is the dilemma resolved? Usually by thoroughly reviewing all available information, including inflation expectations, yield curves, and other leading indicators and business surveys. Once monetary authorities assess the balance of risks and are determined that the green shoots are well rooted, they should announce an intention to remove policy accommodation. A preliminary assessment suggests that based on average inflation and growth potential, Nepal together with India would be included in quadrant II and Bangladesh, Bhutan, Maldives, and Sri Lanka would be included in quadrant III.



What has been observed to date? Depending on the speed of economic recovery over the medium term, rising inflation expectations could eventually reduce the room for further monetary accommodation. Furthermore, if the authorities err too much on the side of caution and fiscal expansion remains in place too long, monetary policy may have to move to a tightening stance earlier than anticipated, partly neutralizing the impact of fiscal expansion. It is therefore critical that exit strategies for both accommodative monetary policy and expansionary fiscal policy are prepared. The exit strategy should be announced once there is firm evidence of recovery, and coordinated with monetary policy, so that continued fiscal expansion will not exert upward pressure on yields, and, risk undermining early green shoots.

6.3 Is there an Exit Strategy in Place?

On the fiscal side, the Government of India has committed to continue fiscal stimulus until it sees clear evidence of sustainable economic growth. However, a modest beginning to exit from fiscal stimulus was initiated in the budget for FY2010 by partially rolling back the rate reduction in central excise duties. The Government has also reiterated its commitment to eliminate revenue deficit by FY 2013 following the recommendations of the 13th Finance Commission. On the monetary side, the Reserve Bank of India announced the first actions to exit from the expansionary monetary policy by terminating sector-specific facilities and by raising the statutory liquidity ratio (SLR) to a pre-crisis level in October 2009. While RBI retained policy rates at their current levels, the cash reserve ratio (CRR) has been increased from 5.00% to 5.75% in January 2010 in two phases.

6.4 Structural Reform Measures

Out of crisis arises opportunity, and the current crisis brings to light the importance of addressing structural constraints. While some fiscal stimulus programs did target the supply side, these were overshadowed by measures to support aggregate demand. If we consider the dilemma on coordination measures between fiscal and monetary policy, particularly as economies move to quadrant II in Figure 21, the dilemma can be eased to the extent that reform measures could be supporting measures to expand aggregate supply and relax capacity constraints. Of course, structural reforms are largely process driven, with large lead time between the implementation of the reform measures and the impact on aggregate supply and economic growth.

While the objective of this paper is not on structural reform measures, we indicate below possible areas that may be considered as candidate reform measures. In many instances—see for example the reforms of India's financial and capital markets—the reforms have been identified, and the onus is on implementation.

The *South Asia Economic Report –Financial Sector in South Asia: Recent Developments and Challenges* presents a comprehensive analysis of the reform agenda on financial sector development by country.³⁴ Salient features include the development of bond markets, corporate bonds in particular, as a means to diversify away from a bank-based financial system. South Asian banking systems have been largely insulated from the immediate causes of the turmoil reflecting (i) no direct exposure to US sub-prime assets; (ii) limited exposure to complex financial instruments; and (iii) generally, a high proportion of funding from large domestic deposit bases. This may also reflect the large proportion of state-owned banks operating in South Asia. However, as the report highlights, the continued prevalence of state-owned banks is a double-edged sword because government ownership, while helping maintain confidence and stability in periods of extreme volatility, may also be susceptible to political influence, resulting in large losses that are ultimately borne by the taxpayer. Furthermore, state-owned banks are not good at innovating and developing products that can effectively leverage resources. Accordingly, the challenge is to reform and privatize banking systems while strengthening the legal framework and prudential standards. Finally, on nonbank financial institutions, the report highlights key issues, including (i) their strong dependence on wholesale funding and implications in the presence of liquidity shortages, and (ii) those nonbank financial institutions that take deposits from the public being generally subject to less stringent prudential regimes than banks.

³⁴ See ADB 2009b.

On public finances, the implications of large countercyclical fiscal stimulus responses to the crisis have underscored the importance of timely fiscal consolidation. Reforms to taxation and, in particular, the ability to develop and maintain buoyant tax systems will be important. In countries like India, the introduction of the goods and service tax should lead to reducing distortions by removing cascading effects under the existing arrangement. It will also serve to develop a true single market in India and reduce the hurdles of cross-state trading by removing ad hoc interstate taxes and levies, creating an important supply side response. In other countries in South Asia, introduction of an across-the-board value-added-taxation system will be critical. This in part will improve the business climate by reducing nuisance and other ad hoc taxes, as well as allow for casting the tax net on the services sector, an increasingly important source of economic activity.

Finally, the impact of the global crisis has had a distinct regional dimension reflecting the initial conditions, the structure and composition of production, and the source of demand in the economy. Propagation can be influenced by various factors but, by and large, contiguity remains a critical factor in most external shocks. To the extent that shocks influence countries within a region in a symmetric as opposed to an asymmetric manner, returns are higher from coordination of macroeconomic policies and management.

7. CONCLUSION

India and Sri Lanka were affected most by the global economic crisis among South Asia countries. While financial markets in these countries started to normalize and a part of capital flows returned, it is not yet clear from latest indicators whether the recovery is well entrenched. Furthermore, it is not possible to ascertain how much of the recovery is due to the stimulus measures. While GDP growth rates in South Asia remain below trend, the output gap is less than that across many other countries in the region, suggesting that stimulus may lead to leakage from output to price effects.

South Asian countries initially responded to the global crisis by a combination of fiscal and monetary policies to mitigate the impacts and support economic growth. Bangladesh and Sri Lanka took narrower targeted fiscal stimulus, while India applied more across-the-board fiscal stimulus. The difference in the fiscal and monetary policy stances between these countries reflect the impact of the crisis, the assessment of the downturn, and the availability of fiscal space.

Fiscal measures that addressed specific sectors are in general well-targeted in Bangladesh and, to a lesser extent, in Sri Lanka. But some measures did not have specific expenditure ceilings or timeframes, leaving some concern about temporality. The actual exit strategy from the general demand stimulus in India is also less clear, though the medium-term fiscal policy statement as of July 2009 targeted a decrease in fiscal deficit. It is critical that governments terminate fiscal stimulus with appropriate timing, and revert to fiscal consolidation efforts. It is also important that structural reform is continued to increase economic growth rates, with a focus on maintaining competitiveness, particularly on the export side.

Monetary policy successfully stabilized the financial sector after the initial shocks of the global crisis. But the effectiveness of support for economic growth through financial intermediation was mixed. Given the inflation risk arising out of recent global oil price movements and potentially weak domestic food production, authorities should prepare exit strategies from the current accommodative monetary policy, while balancing fiscal accommodation to prevent stifling the early signs of recovery.

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Appendix Table 1: Summary of Switching Regression Results for Sri Lanka

	Parameter estimates	t-stat.	P-value
<i>Demand function</i>			
Constant	0.22 (0.14)	1.61	0.11
Real interest rate	-0.02 (0.01)	-2.19	0.03**
GIIP	3.55 (2.05)	1.73	0.08*
σ	0.07 (0.04)	1.9	0.06
<i>Supply function</i>			
Constant	0.00 (0.02)	0.00	1.00
Real interest rate	0.01 (0.00)	5.52	0.00***
GLOANF	1.23 (0.09)	13.31	0.00***
σ	0.03 (0.00)	10.13	0.00
log-likelihood	120.51		
number of observations		62	

***, **, * denote significance at the 0.01, 0.05, and 0.10 level. Figures inside parentheses are standard errors.

Source: Staff estimates.

Appendix Table 2: Constraints Faced by Sri Lanka Credit Market

Months	Probability	Constraint
Jan-08	0.000	supply
Feb-08	0.000	supply
Mar-08	0.000	supply
Apr-08	0.000	supply
May-08	0.000	supply
Jun-08	0.000	supply
Jul-08	0.000	supply
Aug-08	0.000	supply
Sep-08	0.000	supply
Oct-08	0.003	supply
Nov-08	0.016	supply
Dec-08	0.272	supply
Jan-09	0.869	demand
Feb-09	0.958	demand
Mar-09	0.993	demand
Apr-09	1.000	demand
May-09	1.000	demand
Jun-09	1.000	demand
Jul-09	1.000	demand

Source: Staff estimates.

The Impact of the Global Crisis on South Asia

Over a year since the onset of the global economic crisis—which in South Asia disproportionately affected India and Sri Lanka—financial markets have rallied. However, recent indicators point so far to only mild signs of recovery in the real sector, except in India where the recovery in growth has been impressive. The paper reviews the state of the South Asian economies in late 2009, analyzing the countercyclical fiscal and monetary policy interventions and assessing overall performance.

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ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than \$2 a day, with 903 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

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