Capital inflows deluge: What are the options for India?

This crisis has opened many questions about the state of economics and economists. Be it any field of economics - monetary policy, central banking, fiscal policy, financial regulation etc.- there are many open questions that need to be answered.

One such area is field of capital inflows. There was vigorous debate on the topic even before the 2007-09 crisis. The area of contention was whether capital inflows are useful. Despite debate on both sides the argument appeared settled amidst most economists and think-tanks. It went in favor of the thought that the capital inflows are useful in raising economic growth. Hence, developing countries should open up to capital inflows and make policies which promote the same (discussed in detail below).

However, things have changed after the crisis. The advanced economies are expected to maintain near zero percent interest rates for some more time. The developing countries have stepped up growing momentum. This has attracted capital inflows in the developing economies as investors try and achieve higher returns. This in turn has led to built up of asset price bubbles and monetary management problems. Now institutions like IMF also realise the true scale of problem and have said countries could opt for capital controls. This is a complete U-turn from IMF.

This paper reviews this ongoing debate on capital inflows. Section I reviews the broad trends in the capital inflows. Section II focuses on India. Section III is a historical analysis of how capital inflows have moved along with exchange rates and equity markets. Section IV,V, VI and VII look at the policy options for India. Section VIII concludes the paper.

I. Capital inflows turnaround in this crisis

Before the crisis, most emerging economies (EMEs) were facing surplus capital inflows (Figure 1). In 2007, capital inflows in EMEs reached a high of USD 1284.5 bn. After the Lehman fallout in September 2008, foreign capital inflows dried up and reached USD 594.5 bn in 2008 and USD 581.4 bn in 2009. Economies which relied on dollar funds faced severe pressures. This led to policymakers intervening in innovative ways like tying swaplines with Fed, ECB etc to provide foreign funds.

As the crisis eased around June 2009, the problem again reversed. The capital inflows in emerging economies again resumed and are expected to touch USD 825 bn in 2010 and USD 833.5 bn in 2011 . This is a sharp rise given the global economic situation which is highly uncertain.

The policy rates in developed economies are expected to remain near zero for some more time. Around Jan-2010, it looked as if we are out of danger. But again because of Europe sovereign debt crisis and weakening of US economy same problems are beginning to resurface. Bank of Japan in its October 2010 policy cut rates from 0.1% to a range of 0-0.1% and would keep it there till inflation starts to become positive. Similarly, markets expect policymakers of US, UK and Europe to provide further stimulus.

Now with zero percent interest rates and substantial global liquidity, capital is flowing to places offering higher return. Emerging economies become the natural destination as both growth rates and interest rates are higher in these economies. Further, inflation is expected to move higher as economic activity is picking up and prices of oil and other commodities are increasing (some commodities have already increased sharply). Hence, both higher growth rates and expected higher interest rates have led to a surge in capital inflows into developing economies.

Economists have debated whether capital inflows have risen because of interest rate or growth differentials? José De Gregorio, Chile Central bank Governor recently argued in his speech that it is because of growth prospects. He plots both interest rate differentials and growth differentials of a group of developed and developing economies. He finds that between 2006 and 2008 average interest rate differential was 440 bps and now it is 390 bps. However, growth differential has remained same at 5.5% from 2007 onwards. As capital inflows remain robust despite lower interest rate differential, one can say large part of capital inflows is because of growth differential.

II. Focusing on India

India faces a bigger challenge in managing the capital inflows compared to other emerging economies. Apart from favorable growth and interest rate differential it also has robust financial market infrastructure.

RBI Governor Dr D. Subbarao in his speech at Peterson Institute (April 27, 2010) explained this situation (he has made similar remarks in recent speeches as well) :

> *Volatile capital inflows have been a central issue during the crisis, and continue to be so now as the crisis is ebbing. Emerging market economies (EMEs) saw a sudden stop and reversal of capital flows during the crisis as a consequence of global deleveraging. Now the trend has reversed once again, and many EMEs are seeing net inflows - a consequence of a global system awash with liquidity, the assurance of low interest rates in advanced economies over 'an extended period' and the prospects of robust growth in EMEs. The familiar question of how EMEs can maximize the benefits and minimize the costs of volatile capital flows has returned to haunt the policy agenda*

In its Annual Monetary Policy review for FY 2010-11, RBI listed surge in capital inflows as one of the four risks for Indian economy:

> *….. it is unlikely that the large monetary expansion in advanced economies will be unwound in the near future. Accommodative monetary policies in the advanced economies, coupled with better growth prospects in EMEs including India, are expected to trigger large capital flows into the EMEs. While the absorptive capacity of the Indian economy has been increasing, excessive flows pose a challenge for exchange rate and monetary management. The rupee has appreciated sharply in real terms over the past one year.*

The same thoughts were echoed in July-2010 monetary policy as well. The RBI Governor said that risk of capital inflows runs both ways. They could suddenly decline because of a global

slowdown or could increase sharply in search for higher returns, and both pose problems.

III. Impact of Capital Inflows - Historical analysis

The above statements show capital inflows could pose problems if they are higher than the absorptive capacity of an economy. Balance of Payments (BoP) helps us understand whether the inflows are more than the capacity of an economy. In BoP, if there is a current account deficit i.e. imports are larger than exports, a country will need foreign money to pay for the extra imports. Here capital inflows could be used to pay-off the deficit. Capital inflows could be in form of FII, FDI or borrowings from abroad. Therefore, if capital inflows are more than the current account deficit, we can say they are higher than the absorptive capacity of an economy.

Let us see how net capital inflows have moved over the years. Figure 2 shows capital inflows after adjusting for current account deficits. As we can see in 2000's capital inflows have been more than current account deficit in all years except 2008-09.

The next exercise is to see how exchange rates and asset prices move along with these capital inflows. We do this in two ways. One, see how Rupee-Dollar exchange rate has moved. Two, as India trades with other economies as well, including only USD would be incomplete. We need to include other currencies as well. Hence, we include the Real Effective Exchange Rate (REER) which is an index of the 6 currencies of India's top trading partners.

Figure 3 looks at net capital inflows and changes in the Rupee-USD exchange rate and Figure 4 looks changes in REER. As we can see, there are not much changes in the direction of the two measures of exchange rate. However, there are differences in the magnitude. Most of the time you do see the currency appreciate. Though, we are not suggesting that exchange rate is moving only because of capital inflows. Though, it is one of the important factors.

Figure 5 looks at changes in capital inflows and stock markets. Again you see some similarity in the movement. Whenever capital inflows are positive, stock markets usually go up. Now again just like in case of exchange rates, the movement may not be solely because of capital inflows alone. There are many other factors for movement in stock markets.

Another interesting area is real estate prices. It has been seen that real estate markets get impacted greatly because of capital inflows. In the last few months, China, Singapore and Hong Kong have passed polices to limit appreciation in real estate markets. Capital inflows are seen as one of the main reasons for the increase.

The above analysis is based on annual trends. What about the current trend? We broadly indicate the current trends in Table 1. Balance of payments data is available for Q1 2010-11, so we have computed how currency and equity prices have moved in that period. Despite surplus capital inflows, we do not see much impact on current and equity markets. However, in the next period from Jul-10 onwards, we see a sharp increase in FII inflows and also equity markets. Rupee has appreciated by 5.4% when we look at INR-USD exchange rate. We have REER only till August 2010 and might see some appreciation when latest data is released by RBI. Overall, we do see that there is some linkage between capital inflows, exchange rate and asset prices. It

may not be a one to one relationship, but still is strong enough to capture the attention of policymakers and economists.

IV. Current Problems, Dilemmas and Trilemmas

So far, RBI has not intervened in forex markets. RBI Governor in his speech (October 9, 2010) clarifies the situation:

> *In recent months, when inflows have swamped most EMEs, several central banks have intervened in the forex markets. We haven't despite receiving more portfolio inflows last month (September 2010) than in any other single month on record. The reason why we did not feel the need to intervene is because our absorption, driven by a widening current account deficit as imports have surged on the back of a positive outlook on growth and investment, has also increased. Economies that have current account surpluses or only small deficits have intervened. That does not mean we won't intervene. If the inflows are lumpy and volatile or if they disrupt the macroeconomic situation, we will do so.*

Let us understand how RBI/Finance Ministry have been managing the capital inflows.

V. Managing the impossible trinity/trilemma

The management of the capital inflows along with exchange rate puts RBI (and other Asian central banks) to manage the impossible trinity or trilemma.

International economics illustrates that a country can achieve only two of the three objectives- price stability, floating exchange rate and capital mobility. Impossible Trinity is a situation in which a country that has full capital mobility (both inflows and outflows) and simultaneously tries to do both, inflation management using monetary policy and exchange rate management by intervening in the forex markets (as it does in the fixed exchange rate regime). In other words, it tries to have both lower inflation and low exchange rate volatility preferably undervalued exchange rates to benefit its exports. The situation is posing a trilemma to the policymakers as it can choose any two options of the available three choices: capital mobility, exchange rate management and price stability.

Before we look at how RBI manages the impossible trinity, the foremost question that comes to mind is why does RBI manage the impossible trinity. Why doesn't it focus on price stability like other central banks? The answer lies in the objective given to RBI. The Preamble of Reserve bank of India Act 1934, describes the basic function of RBI as:

> *"...to regulate the issue of Bank Notes and keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage."*

RBI has been given the task of managing both, monetary stability and exchange rates in its basic objective. Capital inflows have continued to rise and (as discussed above) and if not managed properly could lead to instability. Hence, given the current situation, RBI has to manage the trinity. Therefore, there is a need to evaluate RBI's policies on the basis of the objective given to the central bank.

RBI Governor clarified the central bank's position on its exchange rate policy in April-10 monetary policy. He said that exchange rate policy is not guided by a fixed or pre-announced target or band. However, if there is excessive volatility and disruptions to the macroeconomic situation, RBI can intervene. Hence, there are no exchange rate targets but it depends on the pressure of capital inflows. To prevent rupee from appreciating, RBI buys foreign currency and supply rupees in the market. This lowers demand pressure on the rupee and prevents further appreciation. However this intervention poses two other problems for RBI.

- One, as RBI buys foreign money, there is an increase in foreign reserves. These reserves have to be invested properly as they are temporary and would be needed if foreign capital move out of the economy anytime as we saw this in the current crisis. To ensure this, RBI invests in safe and highly liquid assets.

- Two, as RBI supplies Rupee, it leads to an increase in money supply which could lead to higher inflation. The government and RBI have worked out a solution to prevent the rise in money supply. The government issues special bonds called market stabilisation bonds (MSS bonds), which suck the excessive money supply that increased due to intervention in the forex market. In economics we call this operation as sterilisation.

  Sterilisation is not a perfect solution, as government bonds involves an interest cost and is borne by the taxpayers. Also, complete sterilisation is impossible due to practical difficulties. So some amount of excess money supply is likely to remain in the financial system. RBI used the above strategy before this crisis as well and managed the trinity. Government issued MSS Bonds worth Rs 1,45,317 cr between August 2005 and April 2008 for sterilization purposes. At the time of issuance, the average annual cost of issuing these bonds was around 7.8% of total bond issues. However, because of the crisis there were changes in MSS bond account. RBI bought back around Rs 47,544 of bonds for infusing liquidity and de-sequestered Rs. 45,000 cr of bonds from MSS account to normal government cash account to manage fiscal deficit. Hence, we cannot take 7.8% as cost of MSS operations. It just serves as a rough estimate.

There was huge debate then on RBI policies. Some economists criticised RBI for these MSS costs and suggested non-intervention in rupee markets. Other economists agreed to RBI strategy and said Rupee cannot be allowed to appreciate as it impacts small exporters who generate employment.

As RBI faces the same trade-off now, same debates and discussions have begun. RBI Governor in a speech at Hyderabad (September 20, 2010) said each of these options is costly -
Don't intervene in forex market, Intervene in forex market but don't sterilize, Intervene in forex

market and sterilize

VI. Other options from Indian perspective

Apart from managing the trinity, there are other options. IMF chief Dominique Strass-Kahn suggested several measures to manage foreign capital inflows. Let us discuss the choices from Indian/RBI perspective:

- **Lower interest rates:** If interest rates are lowered the interest rate differential would decline leading to lower capital inflows. However this option is not available to RBI as inflation remains a concern. Indian economy has recovered much higher than expected, putting further pressure on RBI to raise interest rates.

- **Financial sector prudence:** This is an indirect measure as it tries to prevent asset bubbles in financial markets. This involves imposing restrictions on bank loans, asking banks to maintain higher provisions on loans to certain sectors like real estate to avoid bubbles in that asset class. These measures prevent banks from lending aggressively to certain bubble-prone sectors like equity markets and real estate. Economists who argue that restrictions on capital flows should not be done suggest this measure. In the last few months, China, Hong Kong and Singapore have taken steps to curb the rise in housing prices. South Korea will start an audit of lenders handling foreign-currency derivatives on Oct. 19 to curb volatility caused by capital inflows.

  RBI was one of the first central banks to use this measure before the crisis. It increased provision on loans to real estate sector. When the crisis hit, banks had lesser exposure to real estate companies. Again, in the October 2009 monetary policy review, RBI increased provisions for loans to the commercial real estate sector. RBI has been implementing Macroprudential policies much before they became fashionable after this crisis. BIS calls them RBI's less well-known but important policies. Deputy Governor Ms. Shyamala Gopinath reviews the various policies implemented by RBI (speech given at a Conference in Kuala Lumpur, on August 4, 2010).

- **Capital controls:** These are controls imposed on foreign inflows — both inflows and outflows. Capital controls also help governments raise revenues that can be earmarked to mitigate future crises or meet certain exigencies. In October, 2009, Brazil imposed a 2% tax on foreign investments flowing into its equity and bond markets. Brazil doubled the tax on foreign investments in bond markets. There are speculations that it might double it for equity markets as well. Taiwan followed Brazil in 2009 by banning foreigners from investing in time deposits. Policymakers from Indonesia, South Korea etc are also looking to manage foreign capital inflows.

  This crisis has led to a sea change in thinking with respect to capital controls. Prior to this crisis, capital controls have been criticized by most economists as inefficient tools. After the crisis capital controls have suddenly come into fashion. IMF economists in a research paper have said that under circumstances capital controls can be a legitimate component of

the policy response to surges in capital flows. This came as a major surprise to most economists.

There are various kinds of capital controls:

- **Outright ban:** In this, policymakers impose a ban on certain kinds of financial activity for a temporary period. Like Taiwan banned foreign inflows in time deposits recently.

  In India, Securities and Exchange board of India (SEBI) proposed banning of participatory notes (P-notes) issuances on October 16, 2007. This was followed by an equity market crash with the BSE-Sensex declining 1,744 points, leading to clarifications from Government and SEBI. Sebi followed this with a notice, asking FIIs to stop issuing fresh P-notes and wind up existing exposures within 18 months. Because of the global crisis, Sebi removed these restrictions and P-notes were allowed once again in the Indian equity market.

- **Mandatory reserve requirement:** Investors may be asked to keep a certain part of the inflow amount with the government/regulator. Chile used this strategy from 1991-98.

- **Tax on exit before desired period:** A period could be defined. Suppose an investor withdraws money before a six-month period, a tax would be levied. This ensures that the fund remains in India for a longer period than otherwise expected.

- **Ceiling on inflows:** This is a direct measure that restricts inflow to a certain amount. For instance, India only allows foreign investment to a certain cumulative limit in both corporate and government bonds. Till August-2010, restriction for FII investment in corporate bonds was USD $15 billion and in government bonds was USD 5 billion. On 23 September 2010, limit was raised to USD 20 billion for corporate bonds and USD 10 billion for government bonds.

  The government also imposes restrictions on external commercial borrowings, which are reviewed from time to time depending on the economic situation. These restrictions were applied multiple times during the periods of increase in ECB inflows. However, because of the global crisis, capital inflows dried sharply. Hence the interest rate for ECBs was lowered and much of the borrowings were brought under approval route. The early restrictions also helped mitigate the impact of the crisis and timely lifting of the restrictions helped some companies borrow from foreign companies. Again as the crisis eased, restrictions on ECBs were again imposed from January 1, 2010.

- **Tobin tax:** This is a suggested tax on all cross border currency trade suggested by late economist James Tobin. He suggested imposition of tax on financial transactions to prevent speculation in the international financial markets. This was followed

by a famous quote "to throw sands in the wheel of international finance".

There have been plenty of international discussions on implementation of Tobin tax. However, it has not been implemented in its true form. It has only been imposed selectively by a few economies. Many economists have been against it as capital inflows are seen as mostly beneficial. Moreover, there is no international agency to collect these taxes. India imposed a variant of the Tobin tax — the securities transaction tax (STT) — in 2004 on equity market transactions.

The idea of Tobin tax is revisited in each financial crisis, including the latest one. The discussion this time was kick started by the former British chancellor of the exchequer Alistair Darling.

VII. Evaluating India Options

Our analysis shows that capital inflows have surged in recent few months. This has partly led to appreciation of Rupee and increase in asset prices. The recent rally in equity markets is being ascribed mostly to foreign inflows. However, Indian policymakers so far have been comfortable with the capital inflows. The inflows are only expected to increase going forward unless we see another shock from global markets. In such a scenario, RBI has following options:

- Manage the trinity: Finance Ministry has kept aside Rs 47,263 cr of MSS bonds which could be issued in 2010-11. Though, they have not been used till now.
- Financial sector prudence: RBI Deputy Governor Ms. Gopinath has listed several tools in her speech (August 4, 2010). Similar measures like increasing risk weightages and provisions could be used. Some sector-specific restrictions could also be applied like loans to real estate sector. RBI has been proactive and has already tightened rules for bank lending against stocks.
- Impose capital controls: Capital controls come in various forms as indicated above. To begin with limit on ECB inflows could again be reviewed.

Imposing capital controls is a complex issue as the above analysis suggest. It could lead to knee-jerk reactions in financial markets as we saw earlier. Though India does impose selective forms of capital controls like STT, it is on all financial transactions and not just foreign monies. Hence, Indian policymakers will avoid using capital controls unless the situation becomes really adverse.

RBI Governor in several speeches has been pointing to the U-turn on world-wide view on capital controls. As it has become more acceptable, it could be an option in future. Arvind Subramanian of Peterson Institute (Washington) has suggested a novel approach to dampen capital inflows in the global economy. He says, capital controls or Tobin tax cannot work if implemented by a few countries on a standalone basis. This only results in adverse reactions in the country that imposes these restrictions. He instead suggests instead that countries could impose capital controls in a coordinated fashion . He says India should privately consult its counterparts in other emerging markets and convene a meeting of G-20 finance and monetary officials. Coordinated actions by a group of countries that are collectively en-

dorsed by the G-20 as appropriate macroprudential actions against capital inflows could eliminate the stigma problem.

Overall, Finance Ministry/RBI have not relied on a single measure. It has been a combination of several measures. So again a similar strategy is likely to be used. From a long term policy perspective, Finance Ministry/RBI are expected to go slow on the opening up to capital inflows. It is best summed by RBI Governor in his speech:

> *So, what does all this rethinking suggest? It suggests that wisdom lies in festina lente, as the Romans used to say - make haste slowly. Open up your capital accounts but calibrate the opening to your domestic and external circumstances. In the context of this lecture, the answer to the question, "are capital controls an appropriate mechanism for managing the capital account?" has shifted from a qualified 'no' pre-crisis to a qualified 'yes' post-crisis.*

VIII. Final thoughts

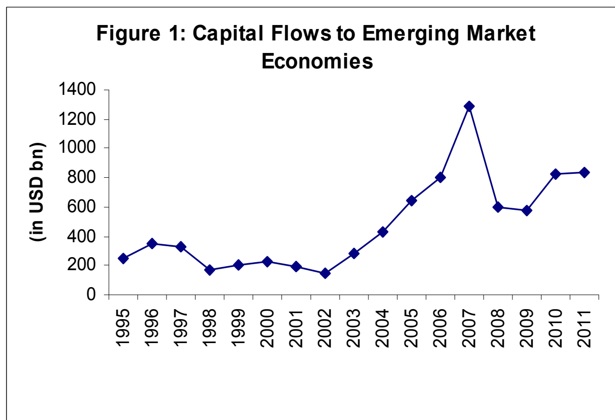
The magnitude and global reach of this crisis has led to many changed beliefs with respect to economics. Some economists say it is time to go to the basics and others say new thinking is needed.

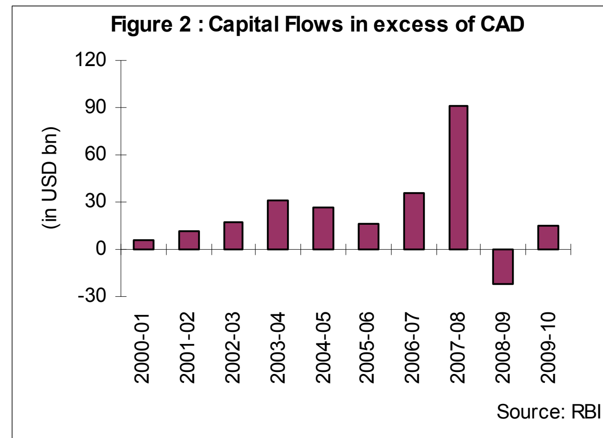
Same is the case with capital inflows. 'Going back to traditional school' (see Box 1 for a discussion) says capital inflows are very important for an economy. However, economies should first improve their institutional and policy framework and then open their economies to capital inflows. Till then they need to open up gradually. The economies of East Europe etc suffered because they opened up their economies before undertaking the reforms.

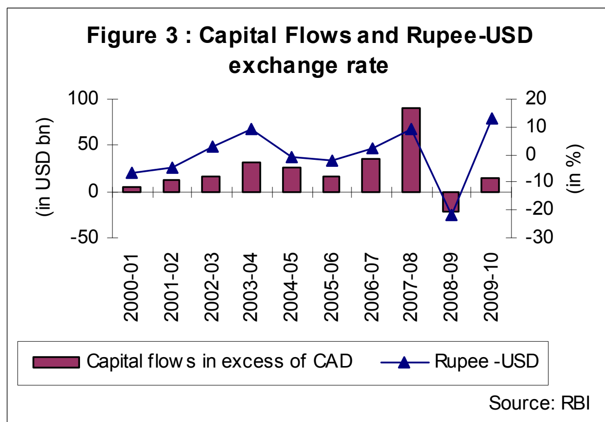
'New thinking school' points that we need to rethink on the role of capital inflows. RBI Governor nicely puts this - *"The law of capital inflows is that they neither come at the right time nor in exact quantity."*

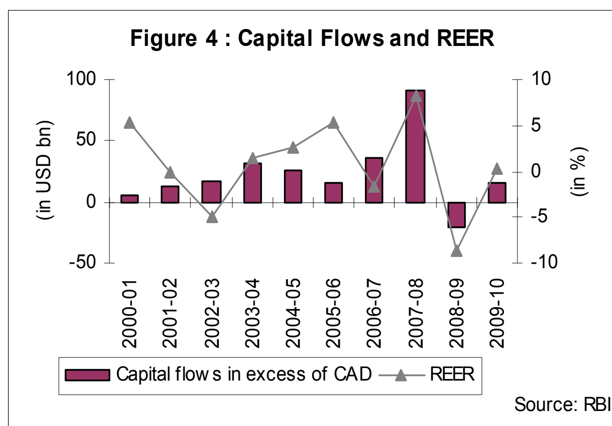
Till now sharp reversal of capital inflows was limited to developing economies. So the usual prescription was improving policies, institutions etc. However, in this crisis developed economies like US and Euroarea also suffered from sudden reversal of capital inflows. The international financial centres which are supposed to promote foreign capital inflows like Iceland, UK etc also faced sudden reversal. This school says they are important but we need to understand their limitations as well. The policymakers need additional tools to manage surging capital inflows.

It will be interesting to monitor debates between the two schools going forward. There is huge research agenda ahead for economists to help understand issue of capital inflows. This agenda in turn will shape policies in future.









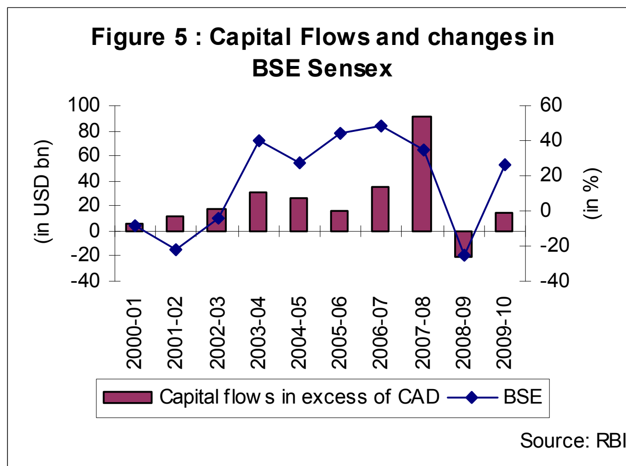


Table 1: Key indicators	
Figures for Apr 10 -Jun 10	
Current a/c Deficit (USD bn)	-13.7
Capital Flows (USD bn)	17.5
Capital Flows after CAD (USD bn)	3.8
Rupee - USD change (in %)	-4.33
REER change (in %)	-0.57
BSE Sensex change (%)	0.05
Figures for Jul 10- Oct 10	
FII inflows (after July-10 to 7 Oct 10) (USD bn)	18.5
ECB inflows (Jul10 - Aug-10) (in USD bn)	2.25
Rupee change (Jul-10 - Oct-10) (in %)	5.41
REER change (Jul-10 - Aug-10) (in %)	0.14
BSE Sensex change (Apr-10 - Jun-10) (in %)	16.03
Source: SEBI, RBI, BSE	

Box 1: Flow of thought on capital flows

Economists have been divided with respect to capital flows. A number of research papers/projects have been written on capital flows. We can classify the various research findings in three schools:

Traditional school: This group led to the initial ideas on capital flows. They formed the view that foreign savings could be used to bring growth in underdeveloped economies. They strongly believe capital flows are beneficial and led to higher growth. This group despises imposing any kinds of capital controls (capital controls are explained later) .

A variant of this school is the corollary school. They have an alternative explanation, according to which capital inflows lead to corollary benefits — better macroeconomic policies, institutional and financial sector development etc. It reckons that foreign financial players would try and push domestic policymakers to reform economies. Some have questioned this view as the factors responsible for attracting capital inflows end up becoming the result of capital inflows.

Crisis school: This school is skeptical over the role of capital inflows. Adherents of this school say capital flows leads to crises in the absence of proper economic framework and policies. As economic policies take time to develop, developing economies need time before they can fully open up to capital flows. Hence, policymakers need to be cautious and should impose restrictions on such inflows. Deep crises followed liberalisation in Latin American economies like Mexico, Brazil, Chile and Argentina (1980 to 2001), east and southeast Asian economies like South Korea, Indonesia, Thailand and Malaysia (1997-98) and other countries like Turkey. The developed economies like Finland, Norway and Sweden also had their share of crises (1990-91) following liberalisation .

Asian school: It lies between the traditional and crisis schools. It does not discourage capital inflows like the traditional school but is uncomfortable with the large magnitude of the flows. Asian countries have an export-driven model and appreciation of currency hampers their growth. Hence, policymakers (mostly central banks) try and stabilize the movements in currency. They intervene and buy foreign currency to limit currency appreciation. They also sterilise currency flows to prevent inflation. Focus on this school has sharpened and its approach is criticised for managing the impossible trinity (explained later). Their critics say the central bank should manage inflation, and not the exchange rates. However, it has been found that even inflation targeting central banks of South Korea and Thailand — have not allowed their currencies to appreciate. In this crisis we even saw Switzerland's central bank intervene in forex markets for the first time in more than a decade. The Asian central banks intervened to protect their exports and Switzerland one to prevent volatility in its currency.

Other Research: Apart from the three schools, there is active research on direction of capital flows. This issue was first raised by Nobel Laureate Robert Lucas. He gave a lecture in 1990 asking why doesn't capital flow from rich to poor countries. Subsequent research noted that Lucas preposition was right. Economic historians added that there are two periods where we see increase in foreign capital flows in the world. First from 1870-1914 and second era from 1970 onwards. In first period, capital inflows were from leading economies (at that time UK) to other developing economies. However, in the second period much of the capital flows are within developed economies. So, the picture that emerges from both kinds of research is that much of capital flows are towards developed economies.

Further work on Lucas Puzzle led to the "allocation puzzle". Economic theory would posit that within developing economies capital would flow where growth and investment is higher. However, research showed that the case is opposite, with low growth economies getting more inflows.

Economists explored reasons for the crisis and flow of capital from developing to developed. The reasons were developing economies have poor macroeconomic policies, lack of proper financial markets , confidence in developed financial markets etc. So without a proper domestic economic framework, capital inflows could lead to crisis.

Fixed Income and Macroeconomic Research
Amol Agrawal
amol@stcipd.com
(022) 66202234

STCI Primary Dealer Ltd.
A/B1- 801, A Wing, 8th floor, Marathon Innova, Marathon Next Gen Compound,
Off. Ganpatrao Kadam Marg, Lower Parel (w), Mumbai 400013.

Dealing Room: (022) 66202217-20 ● Settlements: (022)66202262-64, Fax (022) 66202288
Delhi Office: (011) 47676555-570 ● Bangalore Office: (080) 22208891
Please mail your feedback to stcipd@stcipd.com ● Website: http://www.stcipd.com

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