'When the Troubles Ripple Across': China and India's Recent Experiences with Contagious Financial Crises

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Abstract

China and India are the two major emerging giants of the world. Commonalities and differences between these two countries persist. China and India have embraced financial globalization. Embracing financial globalization is always costly, full of several risks and challenges because crises of the recent past — one global 2008 witnessed in the USA and another Sovereign Debt unleashed in Euro zone in the spring of 2010 — are accompanied by widespread spillover and contagion effects across the two countries and make them vulnerable to crises. It is in this backdrop that the present paper analyses the impact of these two Great crises on the Chinese and Indian economies. How did these two economies respond to the crises is also portrayed.

Key words: Decoupling hypothesis, Bubbles, Contagion effect, Wake-up call effect

JEL Classification: F60, Go1, H63, O53

'As the world enters the modern era, most countries under internal and external pressure need to reconstruct themselves by substituting the mode of governance rooted in agrarian experience with a new set of rules based on commerce.'

Chinese historian and philosopher, Ray Huang (1918-2000)

'Some crises become contagious and spread.'

Glick, R. and A.K. Rose 1998, p.6

'We must draw lessons from the crisis and address its root cause. We must strike a balance between savings and consumption, between financial innovation and regulation, and between financial sector and real economy.'

Premier Wen Jiabao (2009)

1. Introduction

China and India together constitute more than one third of the total world population. They operate the largest economies in the emerging market economies. They dominate in scale, diversity, technological sophistication and dynamism. These two Asian giants have followed distinctive paths, though they started from a similar base. At the beginning of the 1950s, both China and India were predominantly rural, low-income economies, with agriculture the predominant sector, contributing more than three-quarters of the total GDP. Over more than five decades, China and India have made rapid progress in their standard of living, in their structural transformation of their economies, and in the development of their secondary and tertiary sectors. Nay, in some respects both of them shows sign of developed countries. China's and India's export baskets are similar to developed countries 'export baskets'. This has increased their competitive edges.

China is unique. It is now at the stage of transitioning from a middle income-country to a high- income country with its per capita income hit $4,333— according to World Bank estimates —with world-class cities on its coast that offer everything one can find in a developed country. Nobel Laureate Robert Fogel forecasts that in 2040, China's GDP in terms of PPP will reach $123.7 trillion, its per capita GDP will amount to $85,000, 2.4 times the global average. China is also unique in one other respect— it continues to grow at a very rapid rate. China is the world's largest exporter of high technology products and after replacing Japan in 2010 has become the second-largest economy, largest energy consumer, and largest auto market in the world but average income is still far below that of advanced economies. Wages are rising and people are prospering, but 36 million households remain below the poverty line. But the way it is reducing the rate of poverty is remarkable so that any economic historian should remember.

The accession of China as the 143rd member to the WTO on 11 December, 2001 poses issues that are in many respects unique. As a powerful developing nation with strong political and economic structure, its entry ensures to produce substantial changes in the WTO. Its accession expands the territorial scope of the WTO and the level of trade it governs; it also helps to "lock in "the impressive steps" (*Barton, Goldstein, Josling, & Steinberg 2008*). China is fundamentally different from other WTO members including India, partly because of its size, partly because of its particular political- economic structure. China is perceived as a military rival of some important WTO members. China is different along three dimensions: its political – economic forum, the scale of its economic growth, and the strategic military context. A comparison of its economy with

India explains much more (Table1). The entry of China is changing from a centrally planned, communist system to something as of yet not fully defined. We may christen it as socialist market economy with Chinese face.

China's reform began much earlier (1978) than India's (1991) and had pursued consistently. Whereas due to weak coalitions and complexity of Indian politics India's reform has been more stop-start or we may call it gradual as a result, China's political stability has resulted in faster growth over a long period. China's GDP and GDP per capita are both over twice than that of India. China's strategy of developing through exporting is illustrated by the fact that its exports of goods were 8 times greater than those of India, representing 36% of GDP compared to 20% in India. China also exports a greater value of commercial services than India.

In term of overall investment China has outstripped India and has benefitted from high levels of domestic savings. FDI inflows into India are much lower than Chinese levels. Subsequent to market-oriented reforms, both India and China have been successful in achieving a turnaround in their economic growth rates. Today, India and China, both being the active members of the WTO, are among the fastest growing economies of the world. India is the fourth largest economy of the world. However, certain important contrasts are evident in the growth process in the two countries. China's growth pattern exhibits striking similarities with the manufacturing-based export-oriented growth while Indian growth reveals some notable idiosyncrasies. China followed the conventional pattern of shifting labour from agriculture to labour-intensive manufacturing. By contrast, India seems to be skipping the intermediate stage of industrialization and directly moving to the final stage of services-led growth. During the last two decades (1990-2010), the share of manufacturing in India's GDP remained low in the range of 14-17 per cent as against 30-33 per cent for China.

But the scenarios have changed in the last few years. Economic Survey, Government of India (2016-17) forcefully argues that China's export expansion over the past two decades was imbalanced in several ways: the country exported far more than it imported; it exported manufactured goods to advanced countries, displacing production there, but imported goods (raw materials) from developing countries; and when it did import from advanced economies, it often imported services rather than goods. As a result, China's development created relatively few export-oriented jobs in advanced countries. In contrast, India's expansion may well prove much more balanced. India has tended to run a current account deficit, rather than a surplus; and while its service exports might also displace workers in advanced countries, their skill set will make relocation to other service activities easier; indeed, they may well simply move on to complementary tasks, such as more advanced computer programming in the IT sector itself.

Back in 2003, the Indian economy was fairly small and still relatively closed to the outside world, generating per capita incomes that lagged far behind that of other emerging markets. Today, India has become a middle income country. Its economy is large, open, and growing faster than any other major economy in the world. In many ways, then, India's economy is converging toward the large, open, prosperous economies of the West. But its trajectory is different in one fundamental way. While India's pace of growth has quickened in the past quarter century, the dynamism of advanced countries has ebbed, particularly since the Global financial crisis. The poorer Chinese provinces are catching up with the richer ones, but in India, the less developed states are not catching up; instead they are, on average, falling behind the richer states. Evidence so far suggests that in India catch up remains elusive.

However, the major contrasts between the economies of India and China are clearly evident in Table 1. So much so are the commonalities and differences between China and India. However, in the Table 1 we have articulated that China and India have embraced financial globalization. Question may naturally come: Is there any risk for embracing it? History is the evidence to the fact that embracing financial globalization is always costly, full of several risks and it invites challenges. Several explanations for the causes of the crises and their fallouts-both theoretical and empirical are at hands.

Table 1: Comparison of China and India

Items	India	China
Political system	Democratic India embraced globalization disorganized capitalism and embraced neo-liberalism since 1991.	Authoritarian, one-party rule, long-term tension between market and state system. Socialist market economy and opened up its economy in 1978, much earlier than India. It has transformed from a centrally planned command economy to a decentralized market economy.
Development	After independence, highly controlled administrative	The same as like India

planning strategy	strategy and price distortion policy	
Rule of law	'License, permit and quota raj' toned down but still overly bureaucratic for which India-based enterprises still face challenges in terms of ease of doing business.	Many laws in place but weak and inconsistent enforcement of regulations and contracts
Economic growth	India experienced 'growth paradox' during 1986-2001 due to a huge gap between Real GDP Per-capita and Real Consumption Per-capita. India's growth trajectory has passed through several ups and down.	China did not experience such growth paradox during 1986-2001. China's GDP has grown at a phenomenal rate since the 1970s.
Economic structure	Excellence in services — IT consulting, software, call centres; growing strength in financial analysis, industrial engineering and drug research.	Manufacturing workshop of the world — increasingly sophisticated products.
Infrastructure	Poor – on obstacle to development: black-outs; much electricity obtained illegally; inadequate transport. Infrastructure expenses are low	Infrastructure spending is high. Much investment made (more to be done): 10 times more paved roads than India; power costs 10 times lower; phone penetration rates six times higher.
External trade	Some trade liberalization but scope for more; FDI opened more recently but caps remain. Services exports have done better than China. Now India has emerged as a global player in IT and business process outsourcing and pharmaceuticals.	Well integrated into global economy – dependent on foreign firms (half exports by MNEs); heavy use of FDI.
Public sector	Large and loss making – smaller in India	Large and loss making.

Banking sector	Weak, underdeveloped.	Weak, underdeveloped.
Income distribution	Some poverty reduction but the rate of poverty decline is slow and the absolute number remains the same. Potentially destabilizing increases in inequality	Significant progress in poverty reduction: not only did the percentage decline but the absolute number also fell. 230 million people out of poverty – potentially destabilizing increases in inequality; increasing inequality – rural vs. urban; coastal vs. western provinces.
Environment	Deteriorating – could hinder growth	Deteriorating – could hinder growth.
Education	Heavy investment in higher education – basic later.	Heavy investment in basic education – higher later.
R&D	Majority in public sector.	Majority in productive sector.

Source: compiled by the authors

The objective of the present paper is to show the commonalities and differences between China and India— two emerging giants and to highlight, along with it, the impact of these two Great Crises—one global 2008 witnessed in the sub-prime mortgage market in the USA and another Sovereign Debt unleashed in Euro zone in the spring of 2010— on the economies of these two countries. The objective is also to show how these countries responded quickly to overcome the crises and finally to focus on the hard lessons learnt for the two countries.

2. Financial Crises of the recent past with their Theoretical Explanations

The wave of financial globalization during the early and mid-1990s was accompanied by crises. For example, we have before us the European currency crisis 1992-93, the Mexican Crisis of 1994-95 (first of a wave of financial catastrophes in emerging market countries), April1995 Tequila effect or tequilazo, October 1997 Asian currency and banking crisis, August 1 the Russian Rouble Crisis (default and devaluation), September 1998 Russian crisis, January 1999 (Brazilian crisis). The new millennium was not without the happening of financial crises. The most two important crises occurred during the new millennium —the 2008-09 the global financial crisis and the 2010-12 sovereign debt crisis of Europe, bereft of Turkish crisis, 2001, Argentina's crisis, 2001-02 (A Second Generation Crisis), Dotcom Bubble Bursting, 2000-2002 (that hit in a serious way the main centres of the global financial system).

2.1 Financial Crises of the recent Past

We are giving here a short description of the two crises of our focus.

A. The 2008-09 global financial crisis

As regards the causes of the 2008-09 global crisis, many authors focus on the banking system and housing market in the United States. No doubt, the US mortgage market was the epicenter.

One school concentrates on technical microeconomic factors related to the financial sector such as conflict of interest in the rating agencies, uneven financial market regulation between commercial banks and investment banks and weaknesses in the Basel II accord. But they are not the main points.

The second school of thought blames the global imbalances, accentuated by the inadequate governance of the international monetary system.

The third one blames the strong monetary and fiscal policy stance pursued by the United States following terrorist attack on the 11 September 2001, which ultimately brought in the biggest downturn. However, the crisis originated in the financial sectors of the United States and the United Kingdom quickly transferred to the real economy all over the world.

In short, among the most recurrent macroeconomic causes of the crisis we may mention: easy credit, bad loans, debt default, insolvency of key financial institutions, excess liquidity creation, global saving surplus, and excessive investment in housing, a loss of credibility and trust, financial panic and mass selling-off of stocks and hoarding of cash by banks and individuals and downward spiral of the bank's assets that created distortion between financial and real economy. Those macro economic factors were accompanied by microeconomic dynamics: poor management risk, lack of monitoring and supervision of complex financial instruments from national and international institutions.

B. The 2010-12 Sovereign Debt Crisis of Europe

After passing through good times the eurozone, a currency union of 17 European countries, faced a major crisis — political, financial and social, much broader than that of global crisis— called Eurozone crisis when in early 2010, cross–border holdings of sovereign debt and exposure of banks came to light (*Thompson, 2013*). Eurozone witnessed a decline in share of world GDP from 22.3 per cent in 2005 to19.3 per cent in 2010 at current prices. The crisis started in Greece but spread rapidly to Ireland, Portugal, and Spain and subsequently Italy with sovereign debt level started to mount in the aftermath of the global financial crisis in 2008. These economies had witnessed downgrades in the ratings of their sovereign debts due to fears of default and a rise in borrowing costs which ultimately led to a spiral of rising bond yields and further downgrade of government debt of other peripheral Eurozone economies as well.

Re-financing government debt for some of the countries became very difficult for this sovereign debt crisis. The banking and insurance sector with large sovereign debt exposure stood adversely affected as the sovereign debt crisis put pressure on bank's balance sheet through different channels , for example, increasing the cost of funding for financial institutions. This is because it increases the risk of their assets (Allen *et al. 2012*). Besides, the financial markets quickly transmits the shocks which led to a sharp rise in the credit default swaps (CDSs) spread and later impacted capital flows elsewhere in countries like China and India.

Due to the European sovereign debt crisis, global financial market conditions began to deteriorate in May 2010. The persistence of near double-digit unemployment rate in the US and the Euro area, and the sovereign debt crisis in Europe became a drag on both the Asian and global recovery. In the absence of these two hindering factors, global and Asian recovery might have been more rapid and picked up momentum during the latter half of 2010.

Resolving the European crisis becomes very much difficult as the eurozone lacks a full-fledged central bank, a single fiscal authority capable of strict enforcement and it cannot adjust through a depreciation of currency since it is imbibed with one currency. Though several packages of measures such as the European Financial Stability Facility (EFSF) and European Stability Mechanism (ESM) were taken by the European finance ministers and the European Central bank during 2011, the overall uncertainty about the effectiveness of all these measures still remain. And it still faces problems such as the continuing recession; the existence of a monetary union without fiscal union; the slow progress of the proposed European banking union, the continuing need for austerity etc.

2.2 Theoretical models

The numerous financial crises that have ravaged the world markets as well as mature economies have fuelled a continuous interest in developing models for explanation of financial crises. These theoretical models sometimes called models on balance of payments (BoP) crises are even catalogued into different generations.

A. First Generation Models: Fundamental Disequilibrium

The *first-generation* of speculative attack models were mostly developed to explain the crisis in Latin American countries such as Mexico and Argentina in the 1960s and 1970s.These models consider cases where the Government is either unable or unwilling to correct inconsistencies between its exchange rate and other domestic policy goals. As these become more serious, a crisis eventually becomes inevitable. In these models, focus is on the fiscal and monetary causes of crises. And the governments are assumed to pursue fiscal and monetary policies that are inconsistent with maintaining their fixed or slowly adjusting pegged exchange rate regimes. Unsustainable money-financed fiscal deficits lead to BoP deficits and to a persistent loss of international reserves and eventually the authorities will no longer be able to defend the fixed rate. Knowing this, speculators will attack the exchange rate. The policy problem is that money supply (d) is rising while p* and i* are fixed exogenously that which follows from the equation $s=d+r-p^*+\alpha i^*$ where all variables r (international reserves), s (the nominal exchange rate), money supply (d), domestic price level (p) except for the interest rate (i*) are in logarithmic terms and $\alpha>0$. Thus according to the above equation, the exchange rate can be maintained for a short period, but cannot be maintained indefinitely. So the message is loud, and clear: intervention cannot be successful in the long run if the stance of domestic macroeconomic policy is fundamentally inconsistent with a fixed exchange rate. And when the levels of reserves falls to a certain threshold, there is a sudden BoP crisis and ultimately to currency crises (*Krugman 1979*). In another way, we may show the basic mechanics. Following Krugman, the basic mechanics can be shown using the open economy models. Incorporating a government sector alongside a private sector, the current account of the BoP may be expressed as: X-M=(Sp-I)+(T-G) where X is exports, M is imports, Sp is private saving, I is investment, T is tax revenue and G is government expenditure.

From this expression, it may be seen that if G increases relative to T, and there is no change in (Sp-I), then (X-M) will fall. If Sp-I=0, then with G>T, it follows that M>X. With a pegged exchange rate, international reserves will decline in order to finance net imports. Fiscal deficits and their impact on reserves lie at the heart of the first generation currency crisis model. In what follows, the first-generation models emphasize domestic economic mismanagement in the form of fiscal deficits, monetary expansion and pegged exchange rates as the ultimate source of currency crisis.

B. Second Generation Crisis Models: The Role of Expectations

Second Generation Crisis models like those by Obstfeld (1986, 1994), tell a rather different story. It analyzes cases where the above inconsistencies in the first generation model place the economy in a 'Zone of vulnerability' making a crisis possible but not inevitable. These models focus on investors' expectations and 'governments' conflicting policy objectives and predicts that speculative attacks could occur when a country's fundamentals are nearly in a vulnerable zone. So these models demonstrate that exchange rate crises cannot be identified or predicted only with macroeconomic indicators. A speculative attack here leads to a change in economic policy that justifies a new, higher equilibrium value of the exchange rate. But then in such circumstances the speculative attack is self-fulfilling: the successful attack yields its own justification. In first-generation models the success of the attack is a certainty, in the second generation model success only comes if the attack is self-fulfilling—through bringing about the policy change after the attack that the speculators expect. An example of second generation crisis is the 1992-93 crisis in the EMS.

Thus the role of expectation is central to second generation model. Speculators do not cause second generation crises. Rather it is the inconsistency between internal and external targets at the pegged exchange rate—that is, the problem of fundamental disequilibrium—that is, the root cause of the crisis.

C. Third Generation Currency Crisis Models: Financial Sector Weaknesses

The Mexican crisis in 1994 and the Asian crisis in 1997, fuelled a new variety of models – known as third generation models (*Krugman 1998*) which are really models of financial sector crisis rather than of speculative attack or currency crisis *per se* and at best very much a capital account crisis model as well as moral hazard and imperfect information models. When it identifies fully with a capital account crisis model, fundamental to the model is an understanding of the factors that influence capital mobility. For that reason, these models are a part of a framework of moral hazard, and financial asst price bubbles. At some point, the bubble bursts and the mechanics of the crisis run thus: asset prices begin to fall, making the insolvency of financial intermediaries highly visible, and leading to capital flight as asset prices collase. The massive capital flight then generates a collapse in the external value of the currency, which cannot be defended by the authorities. In the case of the third generation model, fiscal deficits and current account deficits of BoP may exist but, in fact, they are not of central importance. The model therefore differs from the first-generation model.

These models also link currency and banking crisis, sometimes known as 'Twin Crises' *(Kaminsky and Reinhart 1999).*It is difficult to distinguish whether a financial crisis originates in a run on domestic banks or on the domestic currency. As a result, currency and banking crises can appear to occur simultaneously.

D. Fourth Generation Crisis Model: Role of Asset Prices and Good Governance

Krugman (2001) has proposed a fourth-generation crisis model, which is similar to the third-generation model, except that the new models consider asset prices other than the exchange rate. These are more general financial crisis models where other asset prices play the pivotal role. The fourth-generation model emphasized economic and financial rules and regulation, shareholder rights, transparency and supervision over the financial system, and government distortions. The models also included legal and political variables such as protection rights and corruption, trust etc.

5. The 2008-09 Global Financial Crisis and its Impact on China and India

Global trade linkages and financial integration led to the rapid transmission of shocks from the US and Europe to the rest of the world. The impact of this global crisis (caused mainly by the excess capacity, excess leverage, excess complexity and excess greed) was felt in almost all the economies of the world to varying degrees (*Sheng*, *2009).* The crisis spread to the emerging two economies through all four channels — trade, finance, commodity, and confidence channels, thus nullifying to the 'decoupling hypothesis'.[3]

The crisis unleashed with the sub- prime mortgage crises in 2007 and the subsequent failures of large financial institutes in the USA and elsewhere, the crisis developed rapidly into a global credit crisis, deflation and reductions in international trade. And it is more central and serious than any of the previous ones that the experts do not hesitate to say that it is the worst economic crisis capitalism had faced since the depression of the 1930s. For the first time everybody, from the richest person in the richest city to the poorest person in the poorest slum, was affected by the crisis and although its roots are global, its impact was local, directly felt on nearly every high street, on nearly every shop floor, around nearly every kitchen table (Gordon, 2010).

3.1 Impact of Crisis on China and China's Responses

3.1.1 Impact of Crisis

At the time of crisis, China's financial system was more closed than other emerging countries. China undertook various banking sector reforms since the 1997-98 Asian financial crisis. In this period, China took concerted measures to address structural weaknesses in the financial sector, especially the high level of non-performing loans that were threatening Chinese financial institutions. China's low level of foreign debt relative to its huge store of foreign currency reserves also provided a cushioning effect. Limits to currency convertibility (especially on capital accounts) and exchange rate control stood China in good stead in respect of another layer of insulation. Beijing was urged by some G-7 members and other countries for coming forward and to give a financial hand in this crisis and to increase imports.

In spite of these favourable positions China enjoyed, the mighty China was badly hurt by the downturn in the United States. Although China did not suffer a recession caused by the contagion effect from the global financial crisis, it did not remain totally decoupled from the crisis. In 2007 its GDP growth rate was a heady 13 per cent, the very next year it decelerated to 9.6 per cent. The year- on- year growth rate of GDP fell from 9 per cent in 2008 Q4 to 6.8 per cent to and 6.1 per cent in 2008 Q4 and 2009 Q1, respectively (*Malik 2012*). Economic survey 2016-17 articulates that in 2009, Chinese growth has slowed from over 10 percent to 6.5 percent.

The single most important transmission channel of the crisis for the Chinese economy was trade. Chinese exports fell dramatically as demand slowed in developed countries. Worldwide demand for Chinese exports fell, leading to slowdown in industrial production, difficulties for businesses, and a wave of factory closures and layoffs in export-oriented southern coastal China. Industrial production decelerated sharply during the fourth quarter of 2008.Its growth rate fell from 15 per cent during the early part of 2008 to 4 per cent towards the end. The tendency was observed in power generation and the demand for commodities and raw materials such as steel, copper, and aluminum. Economic activity weakened markedly. The growth of fixed-asset investment came down from 20 to 25 per cent during the early part of the year to 10 to 15 per cent during the fourth quarter of 2008. Besides, the job losses led to growing frustration and social unrest, especially among the migrant labour populations, which constitute a large percentage of the work force in the labour-intensive export–processing sectors.

Structural problems also became more evident.

(a) Apart from the problem of low level of domestic demand and increasing economic inequality and worsening injustice in Chinese economy, the first major structural problem is the unsustainable mode of export-oriented growth of China because a country with one-fifth of the world's population cannot prosper mainly by selling goods to the rest of the world (*Akoi and Wu 2012*). The outbreak and spread of the global financial crisis made severe impact on China's financial and real estate markets

(b) Contractions in the Chinese growth rate, consecutive drops in the housing prices, and losses in industrial sectors ranging from electricity production, textiles, non-ferrous metals and information technology.

3.1.2 Chinese Policy Responses to the Global Crisis

A. **Fiscal stimulus package**

In China, India and other developing countries, the policy response to global crisis depended on each country's fiscal and balance of payments positions. So there must be differences in the policy responses of the two countries. China, with its miniscule fiscal deficit of 0.4 per cent of GDP and massive foreign exchange reserves, launched a *robust fiscal response* to the global crisis. China's debt was a mere 20 per cent of GDP even under launching a large stimulus package.

B. Monetary Stimulus

Chinese government, on 10 November 2008, announced an historic 4 trillion renminbi yuan (US $ 585 billion) stimulus package aimed at encouraging growth and domestic consumption in ten areas, with new investments for housing, rural infrastructure, transportation, health, education , environmental protection, industry etc. Chinese authorities advanced these changes by reducing interest rates, in coordination with the major G7 countries. The Chinese measures were aimed at stimulating domestic demand. At the same time, China maintained a favourable BoP by curtailing imports in coordination with the downturn in exports, thereby protecting its huge foreign exchange reserves, Chinese authorities maintained the external value of renminbi throughout the crisis period, in spite of the pressure from the G7 to revalue its currency. Half-trillion dollar fiscal stimulus plan was conferred to China for a move towards comfortable position, while the monetary stimulus led to a surge in new banking lending (*Karmakar and Mukherjee, 2016).*

As a result of these two packages, bank credit expansion took place in 2009. The annual target of 7.3 trillion renminbi yuan was achieved in the mid year. Net bank lending in 2009 reached 9.6 trillion renminbi yuan, almost 30 per cent of GDP (*Yongding, 2000*). The broad money or M2 also grew at the record rate. Consequently, interbank money market was full of liquidity.

3.2 Impact of Crisis on India

In India too, the damage from global recession is substantial despite having no direct exposure to the sub-prime mortgage assets and a largely domestically driven economy. No other major Global and domestic crisis hit India in the past with so much vigour and intensity. It is evident that at that time India was highly integrated with the global economy. The fallout for the Indian economy has been a slowdown in GDP growth and a sharp deceleration in exports. India's growth declined from an average of 8.3 per cent per annum during 2004-05 to 2011-12 to an average of 4.6 per cent in 2012-13 and 2013-14. What is particularly worrisome is the slowdown in manufacturing growth that averaged 0.2 per cent per annum in 2012-13 and 2013-14.

The contagion of the crisis has affected India in three ways—the tightening of liquidity, slowdown of trade, and importantly, as happens in all financial crises, the economic outlook.

A. The Tightening of Liquidity

First, due to the global liquidity squeeze, India's financial markets— equity markets, money markets, foreign exchange markets and credit markets— all came under pressure. Indian corporate found their overseas financing drying up. Finding no other options, they converted locally raised funds into foreign currency to meet their external obligations.

Secondly, net foreign investment came down sharply by $ 35 billion in 2008-09 when many foreign investors reallocated their portfolios away from India to meet their cash needs. Net portfolio investment turned negative and stood at $ (-)14 billion in 2008-09 in the wake of global crisis. This resulted in significant decline of capital account balance to US$ 16.09 billion (1.8 per cent of GDP) as compared to US$ 82.68 billion (9.8 per cent of GDP) during the corresponding period in 2007-08 (*Economic Survey 2008-09*).

The foreign exchange market came under pressure because of reversal of capital flows due to the global deleveraging process. Stock market prices, which are closely correlated with the foreign institutional investment (FII) flows, fell sharply in 2008.

Thirdly, added further liquidity tightening from the RBI's intervention in the foreign exchange market to manage the volatility in the Rupee.

Finally, Indian banks were well-regulated and became more cautious about lending. So No Indian banks had to be rescued.

B. Slowdown of Trade

The second channel through which the global crisis affected India was through reduction in exports growth

i) Exports were growing at 20-30 per cent prior to the crisis, but dropped to 13 per cent in 2008-09 and had an absolute fall by 3 per cent in 2009-10.Service exports in particular dropped by 9.4 per cent in 2009-10. As a result, import growth, during the first three quarters of 2008-09 (April—December 2008) period, also being weakened considerably, the trade deficit during this period increased considerably to US$ 105.3 billion from US$ 69.3 billion in the previous year. On the whole, export growth, on BoP basis, declined from a peak of 43 per cent in Q1 of 2008-09 to (-) 9 per cent in Q3 and further to (-) 24 per cent in Q4—a fall for the first time since 2001-02 (RBI *Annual Report, 2008-09*).

Indian exports decreased and growth slowed, which had the potential to touch hundreds of millions of people living on less than a dollar a day. The reduction of exports affected not only export-oriented value-added industries, like garments and textiles, leather, handicraft, and auto components, but industries across the value chain. The index of industrial production (IIP) grew to a mere 2.8 per cent in April 2008 to February 2009 compared with a robust 8.8 per cent growth in the corresponding period of the previous year.

If we compare the performance of the Indian Economy in the external sector, in April-August 2008-09 (pre-recession) and September-March 2008-09 (post-recession), we can clearly see the adverse impact of global recession on India's trade sector in 2008-09. Both exports and imports growth were very robust in the pre-recession period, but turned negative in the post-recession period (Table 2). In the post-recession period import growth of POL was negative and non-POL and non-POL + non-billion import growths were very low. Non-POL imports, although remained resilient during pre-recession period (27.9 per cent growth rate), declined to 4.0 per cent during post-recession period , mainly due to slowdown in the growth in imports of capital goods and gold and silver. Growth of trade deficit also fell drastically.

The trade impacts were, however, confined not only to the above items alone but it had spilt over into invisibles trade, under which there are items like private transfers and remittances from NRIs and "Miscellaneous Services" (comprising IT, ITES followed by travel, transportation, insurance, financial, communication and business services). Global crisis had spillover effects on India's invisibles trades through lower remittances from non-residents workers due to jobs shrinkage and finalization of income contract in the US and EU and other countries and lower earnings from tourism. As a result, the role played by the surplus on the invisibles account in balancing the high trade deficit and of lowering the current account deficit has over time declined.
ii) The trade suffered with a slump in demand for exports, with the United States, the European Union and the Middle East. Contraction of exports demand affected aggregate demand and GDP growth in the Indian economy. As a consequent, current account balance increased from US$ 15.5 billion(1.8 per cent of GDP)

during the corresponding period in 2007-08 to US$ 36.5 billion (4.1 per cent of GDP) for the period April- December 2008.

Table 2: Growth rate of exports and imports : India (US$ terms)

Year	Exports	Imports POL	Imports Non-POL	Imports Gold & Silver	Non-POL+ Gold& Silver	Imports Total	Trade Balance
2007-08							
April-Aug	20.8	18.4	43.6	131.7	33.0	34.4	68.4
Sept-Mar	35.3	56.1	38.5	-30.3	49.2	44.0	63.7
2008-09							
April-Aug (Pre-Recession period)	29.5	69.2	27.9	-13.7	36.7	40.9	61.2
Sept-March (Post- recession period)	-12.1	-12.8	4.0	3.2	2.9	-1.7	17.8

Source: Economy Survey 2008-09, Govt. of India.

iii) What made things worse was that capital was also leaving India, causing the capital account balance to turn negative during the third quarter (October – December) of 2008-09, the first time since the first quarter of 1998-99, which altogether indicating a net outflow of US$3.7 billion, as against an inflow of US$31.0 billion in Q3 of 2007-08, mainly due to net outflows under portfolio investment (on account of deleveraging triggered by the crisis.), banking capital and short-term trade credit. This abrupt reversals of capital flows continued during Q4 of 2008-09 which altogether led to significant difficulties in monetary and macroeconomic management of the Indian economy. Thus we can say a major fall-out of the global crisis had been the reversal of portfolio flows. It is worth remembering that India at the time of the recessions of the early 1990s and the Asian crisis of 1997-98 also had witnessed capital outflows. But this time the current global crisis is somewhat different as India for the first time witnessed large volatile movements in capital flows under the pressure of intense deleveraging as reflected in the sharp turnaround in the capital flows cycle from a sustained phase of surges in capital inflows into large outflows, (particularly in 2008-09).

iv) Following the crisis we witnessed also the combination of the higher costs of funds, liquidity premiums, and higher risk which have resulted in a sharp increase in the price of short-term trade credit. The shortage of availability of trade credit, following the financial crisis, could be viewed from the decline in short-term trade credit inflows into India, as reflected in India's overall balance of payment statistics. Short-term trade credit to India witnessed net outflows of US$ 45.5 billion in 2008-09 (as against inflows of US$ 39.7 billion during 2008-09). Gross disbursement of short-term trade credit was lower than that in 2007-08 (Table 3).

v) Contraction of trade and capital flows in turn affected the exchange rate. Nominal exchange rate depreciated sharply from Rs. 40.3 per dollar in 2007-08 to Rs.46 in 2008-09, and to Rs. 47.4 in 2009-10, but appreciated to Rs.45.6 in 2010-11.

According to Economic Survey, 2008-09, the balance of payments position of the country swung from the position of total foreign exchange reserve of US$ 286.336 billion in September 2008 to a decrease in reserves to the tune of US$ 252.883 billon, US$ 247.686 billion and US$ 249.278 billion in October, 2008, November 2008 and February 2009 respectively.

Table 3: Gross Capital Inflows and Outflows: India

(US $ billion)

Item	**Inflows**			**Outflows**		
	2006-07	**2007-08**	**2008-09**	**2006-07**	**2007-08**	**2008-09**
1. Foreign Direct Investment	23.6	36.8	36.3	15.9	21.4	18.8
2. Portfolio Investment	109.6	235.9	128.7	102.6	206.4	142.7
3. External Assistance	3.8	4.2	5.0	2.0	2.1	2.4
4. External Commercial Borrowings	20.9	30.4	15.4	4.8	7.7	7.2
5. NRI Deposits	19.9	29.4	37.1	15.6	29.2	32.8
6. Banking Capital Excluding NRI Deposits	17.3	26.4	27.9	19.7	14.8	35.6
7. Short Term Trade Credits	30.0	48.9	39.7	23.4	31.7	45.5
8. Rupee Debt Service	0.0	0.0	0.0	0.2	0.1	0.1
9. Other Capital	8.2	20.9	12.4	4.0	11.4	8.2
Total (1 to 9)	233.3	433.0	302.5	188.1	325.0	293.3

Source: RBI Annual Reports, 2008-09

So far as India's external sector is concerned, our first close-up is that global financial crisis eventually has led to considerable contraction in industrial growth and India's exports, widens current account deficits, reverses capital flows, with concomitant pressures in the domestic foreign exchange market (felt through the dollar liquidity shocks emanating from the very lower level of net capital inflows), and drawdowns of reserves, which ultimately make an inroad to have a structural change in India's BoP.

C. The Crisis Spreading through the Economic Outlook

Beyond the liquidity and trade issues, the crisis also spread through the economic outlook. The crisis of confidence in global financial and credit markets increased the risk aversion of the financial system in India and led to banks becoming highly risk averse while lending (*Subbarao, 2009*).

In addition to these we find the impact of crisis on stock, bond , money and credit markets. Nay, the farmers of India were affected severely by the crisis on the logic that they became unable to compete with the highly-subsidized developed countries' agricultural sector.

(a) Impact on Stock, Bond, Money and Credit Markets

Indian stock markets had experienced considerable volatility in the wake of the crisis. The Indian stock market which began the year 2008 on a bullish note , with (Bombay Stock Exchange) BSE and (National Stock Exchange) NSE Sensex indices touching a new peaks of 20,873 and 6,288, respectively, on January 8,2008 but was affected adversely thereafter altogether reflecting the impact of global financial crisis. BSE Sensex stood at 8,325.82 on 6 March, 2009(compared to its average value of 15,644.44 over the year 2007-08), largely due to sizeable net outflow of funds from domestic capital market by FIIs. In fact, intraday fall of 1,968 points in absolute terms in BSE Sensex on January 21, 2008 was the highest recorded fall in the history of Sensex .

The domestic bond markets were affected, since the government securities market and the corporate bond market were opened up. They were affected indirectly, since the drying up of bond and credit markets globally made corporate substitutes overseas funds with domestic funds.

Reserve money growth collapsed from 26.9% in August 2008 to 10.3% in November 2008 and further to 6.4% in March 2009.

Credit growth decelerated sharply to 17.1% in March 2009, partly because of transmission of OECD recession effects to Indian exporters and organized manufacturing.

Thus it is obvious that bond, money and credit markets had been affected indirectly through the dynamic linkages. We can argue on the basis of results that that the global forces have dampened the domestic activity.

(b) Impact on workers: It is now obvious also that such global crisis adversely affected upon workers of India through falling employment, lower wages (sometimes through reduction of even nominal piece- rate wages among more than 8 million home-based women workers working in the unorganized sector) and more adverse working conditions, and indirectly through reduced access to public goods and services.

D. India: Managing the Impact of the Global Financial Crisis

In response to the crisis, the Indian government, as apart from China, with sizeable reserves and large fiscal deficits relied more on monetary policy to ease access to capital for manufacturers and entrepreneurs took several economic stimulus packages to face the impact of the crisis and steps to maintain the stability of its currency, to augment foreign exchange liquidity, and keep credit delivery on track so as to avoid dampening growth. Apart from drastically cutting the interest rate from 9 per cent to 4.7 per cent, the lowest level since 2004, the RBI took non-conventional measures by establishing a rupee–dollar swap facility for the Indian banks to assist in managing their short-run foreign funding requirements. The Indian government invoked emergency provisions of the FRBM Act to relax fiscal targets and launched two stimulus packages in December 2008 and January 2009. These combined efforts amounted to about 3 per cent of GDP. They included additional public expenditure (capital expenditure), expending on infrastructure, cuts in indirect taxes, expanded guaranteed cover for credit to small and micro enterprises, and additional support to exporters. Domestic stimulus measures include spending on the social safety net for the rural poor, a farm loan waiver package, and salary increases for government staff, which were intended also to stimulate demand (*Chin, 2013*).

4. Impact of Euro Zone Crisis in the Spring of 2010 on China and India

The unfolding of euro zone crisis (a crisis stemming from banks and other financial institutions with weakened balance sheets are overexposed to the risk of default with the potential defaulters are called states), the austerity measures in advanced economies, recession in many euro zone countries, risk on/ risk off behaviour of investors and the uncertainty surrounding the future of euro zone have adversely affected the global economy as well as economic activity in emerging and developing economies like China and India as well.

4.1 Impact of Euro zone Crisis on China

China's rising integration with the world economy makes it increasingly vulnerable to external shocks. The country's GDP is now about 70% dependent on international trade and investment. So China has been vulnerable to external financial shocks. China, though with its strong high growth economy and largest foreign exchange reserves had been badly hurt due to Eurozone debt crisis since the European Union is China's largest export market. This was happened via trade and financial linkages on the markets of China. The demand for exports from Euro Area has dampened and China had been more affected than India due to its higher share of exports in GDP as mentioned in the introduction. Besides, the crisis had impacted the capital flows into China in the form of Foreign Direct Investment (FDI) and Foreign Institutional Investment (FII) as well as remittances. This is also true for India (Table 4 and 5). China has promised to shore up the Euro by buying up government debt of countries like Spain, and Italy.

Table 4: Outflows of FDI (million US $)

	2000	2006	2007	2008	2009	2010	2011	2012
India	759	15046	18835	19365	15144	17195	11097	7134
China	na	17634	26506	55907	56529	68811	74654	87804

Source: IBGE, 2014

India's growth declined from an average of 8.3 per cent per annum during 2004-05 to 2011-12 to an average of 4.6 per cent in 2012-13 and 2013-14. What was particularly worrisome was the slowdown in manufacturing growth that averaged 0.2 per cent per annum in 2012-13 and 2013-14.

Table 5: Inflows of FDI (million US $)

	2000	2006	2007	2008	2009	2010	2011	2012	2013
India	4029	22826	34843	41873	37745	34847	46556	36860	28807
China	40715	63021	74768	92395	90033	105735	116011	111716	117586

Source: IBGE, 2014.

4.2 Impact of Euro Zone Crisis on India

The fallout for the Indian economy from the Euro zone crisis had been a sharp deceleration in exports and a slowdown in GDP growth.

Mirroring the global trend, India's exports (merchandise and services) which had robust growth of 30.1 per cent in the five pre-crisis years (2003-2007) decelerated to 16.0 per cent in the five post-crisis years (2009-2013). India's export growth in the last five years has seen ups and downs, being in negative territory twice in 2009-10 as an aftershock of the 2008 crisis and in 2010-13 as a result of the euro zone crisis and global slowdown.

Import demand however has remained resilient because of the continued high international oil prices that did not decline, unlike what happened after the Lehman meltdown of September, 2008.

The high value of gold imports, driven mainly by the 'safe haven' demand for gold that has led to a sharp rise in prices, contributed to the high import bill and widening of the trade deficit.

The widening of trade deficit to 10.2 per cent of GDP in 2011-12 had upset the supply-demand balance in the domestic foreign exchange market, placing downward pressure on the currency. The rupee was under pressure since August 2011, particularly when US sovereign rating was downgraded and the euro zone crisis escalated. The currency went steadily downhill till the end of July, 2012. The real effective exchange rate, which takes into account domestic inflation in India, and is an important determinant of the competitiveness of Indian exports, has depreciated by about 11 per cent since mid – 2011 to July 2012. A simple recent years' look at the indices of real effective exchange rates suggests that since the crisis of 2013, India's rupee has appreciated by 19.4 percent (October 2016 over Jan 2014) according to the IMF's measure, and 12.0 percent according to the RBI's measure.

The trade deficit has remained high at 10.8 per cent of GDP in 2012, with current account deficit at 4.7 per cent of GDP (Table 6). The trade deficit, as a result, increased to US$ 189.8 billion in 2011-12. With invisible surplus of US$ 111.6 billion (6.0 per cent of GDP), the current account deficit had widened to record 4.2 per cent of GDP. This is unlike the situation during the 2008 crisis, when the high trade deficit of 9.8 per cent of GDP in 2008-09, was partly offset by an invisible surplus of 7.5 per cent, lowering current account deficit (CAD) to 2.3 per cent of GDP. The signs of strain on BoP continued in the first half of 2012-13 (April-September 2012) with the trade deficit of US$ 90.7 billion increasing to 10.8 per cent of GDP and CAD of US$ 39.0 billion at 4.6 per cent of GDP. The stress in India's BoP, which was observed during 2011-12 as a fallout of the euro zone crisis and inelastic domestic demand for certain key imports, continued through 2012-13 and 2013-14.

The high CAD has had implications for rupee volatility and business confidence in the economy. A positive development was that high CAD had lately been financed by capital inflows, which explains why the downhill movement of rupee, witnessed till July 2012, has been largely arrested. There has however been high dependence on volatile portfolio flows and external commercial borrowings. This makes capital account vulnerable to a 'reversal' and 'sudden stop' of capital, especially in times of stress.

Table 6: Share of Current Account Surplus (+)/deficit (-) to GDP (%)

	2000	2006	2007	2008	2009	2010	2011	2012
India	-0.6	-1.0	-1.3	-2.3	-2.8	-2.8	-4.2	-4.7
China	1.7	8.5	10.1	9.3	4.9	4.0	1.9	2.3

Source: IBGE, 2014

Though the outlook is now better for India, the situation is still fragile for India with the deep scars left by the 2008 and 2010 crisis still visible.

5. Implications of Financial Crises for China and India

So far as the Indian economy is concerned, it after reporting fairly robust growth of over 9 per cent during 2005-08, moderated to a growth of 6.7 per cent because of the global financial crisis and to a growth of 5.5 per cent following the sovereign debt problem in the Euro zone. There is evidence that the sequence and timing of financial sector reforms can mitigate financial turmoil and, thereby prevent negative effects. But financial liberalization without the proper surveillance capability against the several risks[5] inherent in global capital flows may destabilize local financial sectors, real economies, and domestic political environments. However, implementing the prudential regulation to shelter developing countries like China and India from the ups and downs of global finance capital is not easy. As is now evident and clear in the current crises, even the developed countries with their proclaimed advanced financial systems have not been able to effectively take on this important task.

Volatility and contagion in the International Financial Markets increase the incidence of financial crises and growth volatility in the developing world (like India and China), reduce policy space to adopt counter-cyclical macroeconomic policies. Therefore, a major task of a development-friendly international financial architecture is to mitigate pro-cyclical effects of capital flows and to promote about counter-cyclical macroeconomic policies in the developing world. To achieve these objectives, a series of useful policy instrument can be developed including explicit introduction of counter-cyclical criteria in the design of prudential regulatory frameworks: designing market mechanisms that better distribute the risk faced by the developing countries throughout the business cycle: and better provision of counter-cyclical official liquidity to deal with external shocks. Such measures would make capital flows better support development.

On the macroeconomic front, financial crises manifest capability failure on the part of monetary authority (to maintain exchange rate stability, besides stabilizing rate of interest or protecting the foreign exchange reserve) as well as the commercial banking system (in maintaining a balance among liquidity, profitability and solvency) along with non-functioning of the free market system. The sovereign debt crisis in EUROZONE in recent years—a development of the financial and economic crisis unique to Europe-- has not only aggravated the macroeconomic conditions of the countries of the EUROZONE but also in turn, has deeply affected the balance sheets of global banks having exposures to China and India. The European debt crisis and the global slowdown are creating serious headwinds for the Indian and Chinese recovery and posing major challenges for the economy. On the domestic front, the large twin deficits pose significant risks to macroeconomic stability and growth sustainability.

6. Conclusions

The 2008 global financial crisis and subsequent slowdown in the World economy with Eurozone crisis at its acme have clearly demonstrated that through contagious effect tremors originating in one corner of the world can quickly reach other parts, among others via the trade and financial channel.

More than a decade later after Asian crisis in 1997-98, the 2008 Global crisis erupted because no economy was an island to itself. A chain of domestic events can be catastrophic when linked globally. The crisis was a network crisis— a crisis of national and global governance in a networked world— a crisis where shocks are propagated internationally[6]. The 2007-08 financial crisis is a banking crisis stemming from reckless provision of mortgages to low- income household in the USA (so-called subprime mortgages) and repackaging of these mortgages via an array of financial instruments that both dispersed and disguised the risk associated with them. Undoubtedly this was a key element; it is only a part of the story. The events of 2007-8 and 2010-12 are best understood as part of the broader crisis of the financial system that is rooted in a fundamental feature of capitalism— debt. Capitalism depends fundamentally on debt, in the sense that it depends on credit— the promise to pay— and the continuous provision of money, in the form of interest bearing loans, by banks and other financial institutions to finance both production and consumption(*Karmakar and Jana 2015*). Without credit-debt, the production and consumption would cease, and capitalism would grind to a halt.

In fact, recent new-style financial collapses offer China and India to learn some hard economic policy lessons: apply the optimum order of liberalization, apply temporary restrictions on capital inflows, and apply a temporary exchange rate anchor in that unrestricted movements of capital, for example, are dangerous; that there is no simple risk-free, fast track to sustained growth by opening up too quickly to capital flows and to allowing exchange rate to appreciate. They also clearly demonstrate the need for strengthening domestic banking with sufficient regulation for its stability and to achieve sustainable economic growth, strong financial system is urgently called for in order to discriminate against the inflow of hot money, to create financial safety nets and the necessary institutional framework to resolve the problems of poor policy response, moral hazards and information asymmetry (*Karmakar, 2014*)

Two major financial crises of the new millennium have raised the case of global rethinking of the current international financial architecture. Reforming the international monetary system in a direction consistent with the need to cope with today's world challenges is the need of the hour.

End notes:

1. Bubbles: Bubbles are typically associated with dramatic asset price rises followed by a collapse. Bubbles arise if the price of assets exceeds the asset's fundamental value. This can occur if investors hold the assets because they believe that they can sell it at higher price than some other investors even though the asset's price exceeds its fundamental value. Famous historical examples are Dutch tulip mania (1634-7), the Mississippi Bubble (1718- 20) , the South Sea Bubble (1720), and the 'Roaring '20s' that preceded the 1929 crash. More recently, up to March 2000 Internet share prices (CBOE Internet Index) surged to astronomical heights before plummeting by more than 75 per cent by the end of 2000.

Asset bubbles are damaging to the real economy because sooner or later they implode, hurting the real wealth of households and corporations and thereby reducing consumption, employment and incomes. Similarly the housing bubble is considered as detonator of the gravest financial crisis of 2008 since the Great Contraction of the 1930s

2. **Contagion**: Contagion is spill-over of a crisis from one country to other and it works through

(a) (Herding when all economic agents follow the lead of the market,

(b) *non-rational sentimental behaviour* on the part of the investors who detect a weak fundamentals in one country and if the country locked in crisis, they tend to become more sensitive to the risks in other countries with similar fundamentals, reduce their exposure to these countries and, thereby, contribute to spread the crisis across economies ,

(c) *in the case of highly integrated capital markets* of two or more economies, where shocks to the larger country are quickly transmitted through trade in assets,

(d) *rational speculator's behavior* is the case when the eruption of a crisis in a certain country indicates to each investor that other investors will attack vulnerable countries in the future,

(e) *(regional) trade* : Once a country has suffered a speculative attack, its trading partners and competitors are disproportionately likely to be attacked themselves. More precisely, the episode runs thus: if the first- victim country depreciates, then other countries will depreciate. This type of story is very much akin to the 'first generation' models of currency crises triggered by inconsistent macroeconomic fundamentals in the first-victim country,

(f) *Contagion as a Consequence of Co-operation/ Co-ordination which lacks Credibility* in which cases the probability of devaluation increases in both countries when both seek either cooperation or coordination.

There is a somewhat different story which emphasizes the role of trade in transmitting currency crises induced by self-fulfilling expectations in the first-victim countries to regional trade partners. This story is akin to 'second generation 'models of speculative attack,

(g) *Contagion through the balance of payments / money demand*: The question here is why speculative attacks tend to spread, and precisely, where the collapse of one parity can lead to a speculative attack on another parity that otherwise could not have occurred. The answer is yes, provided the both countries are closely connected with each other by trade ties, so that the parity changes via depreciation. In such a scenario, the exchange rate floating of the first currency after a successful attack on its earlier peg, can trigger another speculative attack on the second currency.

3. Decoupling Hypothesis: The initial effect of the sub-prime crisis unleashed in USA was, in fact, positive, as India received accelerated Foreign Institutional Investment (FII) flows during September 2007 to January 2008. This contributed to the debate on "decoupling hypothesis," where it was believed that the emerging Asian economies, especially the larger ones like China and India could remain insulated from the crisis and provide an alternative engine of growth to the world economy in moderating the global downturn and paving the way for a worldwide recovery in a year or so. It was also believed and there were also arguments that the "strong" domestic financial sector of these economies would be capable to be remain immune to shocks from the international financial system. The arguments soon proved unfounded as the global crisis intensified and spread to the emerging economies through different channels as mentioned in the paper thus nullifying the decoupling hypothesis.

4. Currency crisis: A currency crisis occurs when there is a wave of selling of a currency that is fixed in value by a central bank. If the central bank's effort to preserve the pegged value be unsuccessful, it is forced to devalue the currency. The depreciation raises the cost of imports and servicing foreign debt and may induce a contraction in output in the short run as well as higher inflation rates. A successful defense of a currency peg is costly if the central bank is forced to raise interest rates or spend its foreign currency reserves to preserve the pegged rate.

The experience of the East Asian countries in 1997-98 demonstrated that the simultaneous occurrence of currency and banking crisis--a twin crisis. These crises often take place after a shock to the financial sector due to financial liberalization or increased access to international capital markets. The banking crisis usually precedes the currency crisis, but the latter deepens the impact of the former, creating a "vicious cycle."

5. Currency Risk: (culminating through the sudden large volume of capital inflows to put pressure on the domestic currency to appreciate and a large appreciation of the domestic currency is problematic because it undermines export competitiveness, causing what is often called the 'Dutch Disease')

C*apital Flight Risk* (that induces a vicious cycle of additional capital flight and currency depreciation, debt service difficulties and reductions in stock or other asset values thus making the investors panicky for which they sell their assets *en masse* to avoid the new capital losses being brought about by anticipated future depreciations of currency or asset values and when government fails to restrict the kinds of capital flows, viz. portfolio investment, short-term foreign loans and liquid form of FDI, this risk is severe),

F*ragility risk (*essentially referring to the vulnerability of an economy's internal and external borrowers to internal and external shocks that jeopardize their ability to meet current obligations, causing maturity mismatch or 'Ponzi' financing as coined by Minsky when borrowers finances long-term obligations with short-term credit, for example.), Sovereignty Risk (risk that a government will face constraints on its ability to pursue independent socio-economic policies) and

Contagion Risk (refers to the danger of a country falling victim to financial and macroeconomic instability that originates elsewhere. Among them, severity of contagion risk obviously depends on the extent of currency, flight and fragility risk, while financial integration is the carrier of contagion risk. Countries can reduce their contagion risk by maintaining their degree of financial integration and by reducing their vulnerability to currency, flight and fragility risks through a variety of financial controls (*Grabel, 2003*

6. How are shocks propagated internationally? Kristin Forbes (2001) articulates that the first channel by which a shock to one country could be transmitted to firms in other countries is through product competitiveness. A second mechanism by which a shock to one country could be propagated is through an income effect that lowers a firm's product. A third channel by which a firm can be affected by shocks in other countries is through a credit crunch. A financial shock to one country causes investors in that country to withdraw their deposits. A fourth channel by which shocks could be transmitted internationally is through a forced –portfolio re-composition. A final channel by which country-specific shocks can be transmitted is through wake-up call effect where new information about the crisis from another country wakes up home people with the severity and seriousness of the crisis.

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