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THE CONTAGION EFFECTS OF EUROPEAN UNION MACROECONOMIC INSTABILITY IN EMERGING MARKETS: EVIDENCE FROM INDIA

ABSTRACT

This paper examines the European Union (EU) macroeconomic instability and its contagion effects on emerging market economies. Given the large economic weight of the EU in the world, the contagion of the crisis and its potentially devastating effects are necessitating a renewed attention from the researchers and international financial institutions in analyzing the nature and implications of sovereign debt on the political economy of developing and emerging economies in general, particularly India. Though the crisis is epicentered in the EU, its knock-on effects are felt all across the globe. The emerging and developing economies (EDEs) have posted lower growth on account of the worsening external environment and a weakening internal demand during the period of the Eurozone debt crisis. While presenting the contemporary literature on the topic, this paper analyses the causes of the sovereign debt crisis presents implications for sovereign debt crises and draws lessons particularly for emerging markets such as India.

Key Words: sovereign debt crisis, credit risk, endogenous default, banking crisis

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INTRODUCTION

The European macroeconomic instability owing to the sovereign debt crisis jeopardized the post-global crisis recovery plans put in place by regulators, policymakers, and the sovereigns. Though the crisis is epicentered in the European Union (EU), the knock-on effects of the crisis are felt all across the world. This crisis, which is characterized by pervasive instabilities, has led to a crisis of confidence in the global financial markets in addition to the growing market turmoil and the risk of contagion as many EU economies struggle with a combination of high-level indebtedness, budget deficits, and frail or deficient growth. In addition, concerns about the mounting government deficits at alarming levels across the world, coupled with a wave of downgrading of European governments' debt ratings has also added to the fretfulness in the financial markets.

The probability of default on sovereign debt has further compounded in congruence with the macro-economic misalignments, which include recession-triggered budget deficits, bailout-motivated fiscal measures, as well as country-specific strategies, and political risks. Starting from Greece, Ireland, Portugal, Spain, and more recently Italy, these EU economies have witnessed a severe downgrade in the rating of their sovereign debt, fears of default, and a sudden rise in borrowing costs. These developments, apart from threatening other EU economies and even the future of the euro, have indeed triggered a global debate on the management of sovereign debts and their implications for other emerging markets. Given the large economic weight of the EU in the world, the contagion of the crisis and its potentially devastating effects are necessitating an increased attention from the researchers and international financial institutions towards analyzing the nature and impact of EU crisis.

Empirical studies focusing on financial integration and liberalization in emerging markets, such as Bekaert, Campbell, and Ng (2005), Bekaert, Campbell, and Christian (2005), and Bekaert, Ehrmann, and Arnaud (2014) show the evidence of idiosyncratic contagion effects to economy transmitted through the emerging financial markets. The market model of Bakaert, Campbell, and Christian (2005) show how the process of financial liberalization process of the developing economies impacts the economic growth prospects. Baur (2012) studies the spread of the 2008 Global Financial Crisis from the financial sector to the real economy. The study examines different channels of financial contagion across countries and sectors and finds that the crisis led to an increased co-movement of returns among financial sector stocks across countries and between financial sector stocks and real economy stocks. The results establish that no country and

sector was insulated from the adverse effects of the crisis that limited the effectiveness of portfolio diversification.

This paper derives motivation from the hypotheses of the above papers and examines the context, nature, and causes of EU macroeconomic instability in the backdrop of the debt crisis during the period of 2010 to 2012 and expounds the implications on emerging economies in general and India in particular. The remainder of this paper is structured as follows: Section 2 illustrates the context, nature, significance, and indicators of debt crises. Section 3 presents the economic impact of the sovereign debt crisis from a theoretical perspective. Impacts of the European debt crisis on the Indian economy are analysed in this section and the paper concludes in Section 5 by providing implications for future research.

EUROPEAN DEBT CRISES

Government interventions due to the global financial crisis have led to an increased supply of sovereign debt, with severe implications for growth and debt sustainability outlooks in both mature and developing economies. In industrial countries, sovereign debt has risen significantly: in 2008, the net sovereign borrowing needs of the UK and the US were five times larger than the average of the preceding five years (2002 – 2007). The huge stimulus and bailout package adopted by the US government to deal with the crisis delivered by irresponsible financial agents in 2008 took the net public debt to GDP ratio in the US from 42.6% in 2007 to 72.4% in 2011. In advanced economies as a whole, government debt to GDP ratios is expected to reach 110% by 2015 — an increase of almost 40% over pre-crisis levels (IMF, 2010).

Many middle-income countries also witnessed deteriorations in their debt positions, although the trends were not as dramatic as those of the advanced economies. In low-income countries between 2009 and 2010, the present value of the public debt to GDP ratio has deteriorated by 5–7% compared to the pre-crisis projections (IDA and IMF 2010). 40% of the low-income countries were either already in debt distress or facing a high risk of falling into debt distress. Some of the countries facing severely reduced market confidence led to the rise of fear of the “debt trap,” in their medium-term growth. The ongoing stress in the debt markets in the EU is a testimony to the haunting concern that despite massive government efforts, the economic crisis continues to prevail and sovereign debt markets need very close monitoring.

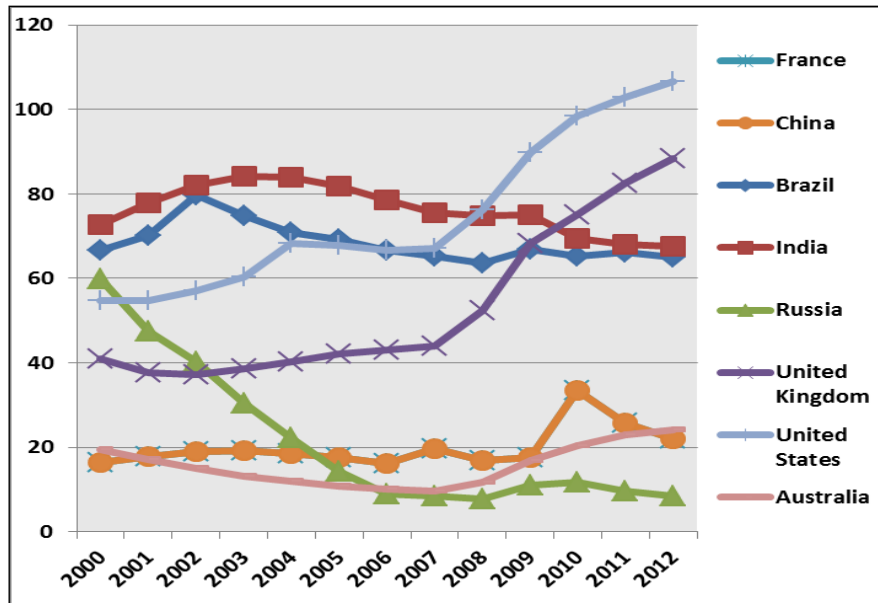
In practice, countries rarely announce that they are defaulting officially because the consequences to their credibility would be terrible. According to Moody's Investors Service (2003), only seven rated sovereign bond issuers (sovereigns) would have defaulted on their foreign currency-denominated bonds since 1985, and all of those defaults occurred between 1998 and 2002. Sovereign ratings provide an indication of the ability and standing of the sovereign governments in servicing their debts. Sovereign ratings are imperative not only because major issuers in the global capital markets are national governments, but also because these appraisals affect the ratings assigned to borrowers of the same nationality as well. Table 1 provides a comparison of the movement of sovereign ratings for select economies. Appendix 1 details the timeline of events of the European debt crisis. Further, in Figure 1, the trend of government debt to GDP of select developed economies and the BRIC countries are shown.

**Table 1. A comparison of the movement of
Sovereign ratings for select economies**

Country	1995	2012
Australia	AA	AAA
Brazil	B+	BBB
China	BBB	AA-
France	AAA	AA+
Germany	AAA	AAA
Greece	BBB	CC
India	BB+	BBB
Ireland	AA	BBB+
Italy	AA	BB
Portugal	AA-	BB
Russia		BBB
South Africa	BB	BBB
Spain	AA	BB
UK	AAA	BBB
US	AAA	AA

Source: Compiled by the author based on S&P publications

Figure 1. Government Debt (% of GDP): Developed and BRIC Economies



Source: GFSR data of IMF database

IMPACT OF SOVEREIGN DEBT CRISES

How does debt relate to the growth of the debtor? Early on, economists used the Harrod–Domar growth model (Harrod, 1939; Domar, 1946) to answer this question. The approach provided a framework for analyzing national debt dynamics with a very parsimonious description of the economy. In the Harrod–Domar (HD) Model (1946), GDP growth will be proportional to the share of investment spending in GDP. Where does the capital come from? If savings are available, savings lead to (capital) investment. If without savings, obviously, we resort to foreign aid (or sovereign debt). Assuming full employment, market clearance, and perfect competition, the HD Model attempts to show that economic growth is based directly on capital accumulation and serves as luminary work. According to this model, if the debt can raise capital accumulation, growth will be achieved. The external debt is observed to bring in the much-needed advanced technical change to the production processes in the economy and contribute significantly to output. Representing the technical change in the reduced growth models of Mariano and Villanueva (2005), external debt affects the technology change indirectly through capital accumulation.

The debates between Solow's neo-classical exogenous growth theory (1956) and Romer's endogenous growth theory (1986) represent the controversy in the huge field of research on convergence. According to the Solow models, one can derive both absolute and relative convergence. With the assumption that the labor-augmenting technical change is exogenous, Solow's model emphasizes the capital accumulation as the source of conditional convergence, whereas Romer (1986) and Lucas (1988) deem a combination of physical and human capital as the principal engine of growth. Romer models make a difference in technology change across countries and overtime as the source of convergence. *Debt overhang theory* focuses on the adverse effects of external debt on investment in physical capital. The situation when the contract value of debt is less than the expected repayment on external debt is defined by Krugman (1988) as "debt overhang". The EU crisis has brought to light that international financial integration will not automatically lead to an efficient allocation of capital, as predicted by neoclassical theory, and has raised doubts about the ability of free markets to efficiently allocate capital (Volz, 2012). Though there have been notable sovereign debt crises such as the ones faced by Russia and Latin American countries during the 1990s, the current EU crisis is significant in terms of the transition that is taking place globally in the geopolitical context.

The seminal model of the Flood and Garber (1984) provides a theoretical explanation for the occurrence of a currency crisis stemming from incoherent macroeconomic policies, and in particular, an uncontrolled monetary expansion, which can be easily extended for monetized excessive public deficits (Corsetti and Mackowiak, 2006). On the contrary, only a few papers have scrutinized the potential mutation of banking crises into sovereign debt ones. However, Reinhart and Rogoff (2011) in their detailed study on the topic, argue that external debt surges are an antecedent to banking crises. In addition, they also observe that public borrowing surges ahead of external sovereign default, as governments have "hidden domestic debts" that exceed the better-documented levels of external debt. Sovereign debt crises impact the cross-border capital flows and corporate market access (Reinhart, Rogoff, and Savastano, 2003).

The extent of the impact on banks has been broadly in line with the perceived deterioration in the creditworthiness of the home sovereign suggesting that investors focus on the banks' jurisdictions as well as their creditworthiness. According to the Bank for International Settlement (BIS, 2011), there are, broadly, four channels through which sovereign risk affects banks' funding costs, given the pervasive role of the government debt in the financial system: First, losses associated with government debt weaken the

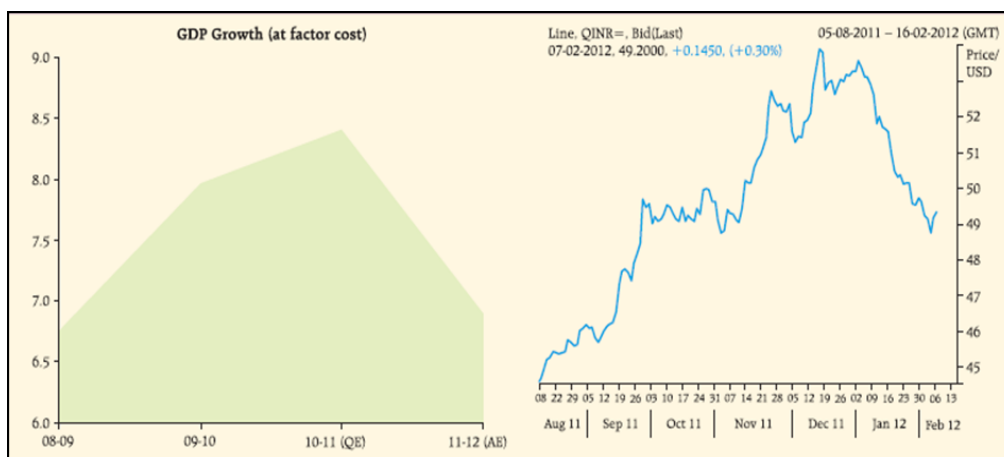
balance sheets of banks making funding more costly and difficult to obtain; Second, higher sovereign risks reduce the value of the collaterals that banks can use to raise wholesale funding and central bank liquidity; Third, sovereign rating downgrades flow through to lower ratings for domestic banks, as banks are more likely than other sectors to be affected by sovereign distress. As the banks' credit ratings decline, their wholesale funding costs rise. Fourth, a weakening of the sovereign reduces the funding benefits that banks could derive from implicit and explicit government guarantees. Appendix 2 presents the fiscal position of select economies in the context of the Euro debt crisis.

IMPACT OF EUROPEAN DEBT CRISIS IN INDIA

In India, the economic growth rate has slowed since the European sovereign debt crisis began, declining from 9.9% in 2010 to 7.4% in 2011. The macroeconomic topography has further deteriorated since the start of the year 2012. While the fiscal and trade deficit has ballooned to 5.8% and 9.9% of GDP respectively, inflation is marching back towards double digits. The country's currency hit an all-time low of INR 56.5 against the US Dollar depreciating by about 25% – making it one of the worst performing emerging market currencies. The weakening Indian Rupee (INR) this year has put further pressure on the country's swelling fiscal deficit and even reasoned to invoke memories of the current account crisis of 1991.

Part of the reason India's economic growth rate has slowed is due to declining foreign investment in India, though the EU still has a more foreign investment in India than in any other country, which is a general consequence of investors fleeing to safety in the time of crisis. This decline in investment has, in turn, led to a depreciation of the INR; particularly in the latter half of 2011 (like Brazil). However, the depreciation of the INR has boosted Indian exports, which rose by 21% in the eleven months beginning in April 2011 compared to the eleven months beginning in April 2010. Although decreased foreign investment in India's economy partially contributed to its slowdown, lower domestic demand has been a much larger cause. In addition to foreign investors' flight to safety in the latter half of 2011, India's inability to reduce inflation has also discouraged foreign investment. In some ways, India is in a uniquely precarious position because it imports nearly 80% of its oil needs. Therefore, while a recovery in Europe will boost India's exports and foreign investment in India, it will also increase the global demand.

Figure 2. Impact on GDP Growth and INR



Source: RBI (2012a)

With the EU seeming to head for a recession and the global growth decelerating again after a dumpy recovery, growth in India too has toned-down to more than expected earlier. The upsurge in global uncertainty, feeble industrial growth, and a slowdown in investment activity and deceleration in the resource flow to commercial sector led to a dip in output growth. Inflation risks emanating from suppressed domestic energy prices, incomplete pass-through of INR depreciation and slippage in the fiscal deficit, further fuelled by food and commodity inflation have led to policy tightening. Europe being one of the largest trading blocs for India, the austerity measures by European countries and falling consumer expenditures have negatively affected exports more than the services exports from India. According to Reserve Bank of India (RBI), the share of India’s exports to EU to total exports has come down from 20.1% in 2009-10 to 18.6% in 2010-11 and 17.5% in 2011-12 (RBI, 2012b). In view of the weak position of European banks, capital has flown back, leading to a sharp depreciation of the INR, which is already weak (Figure 2 presents the impact of the crisis on GDP growth and Indian currency).

Ironically, even as a decade ago, it was intellectually fashionable to subscribe to the “decoupling theory” that even if advanced countries go into a downturn, emerging economies like India will at worst be affected only marginally, and can largely steam ahead on their own. In a rapidly globalizing world, the decoupling theory was never totally persuasive; given the evidence in the year 2011 - capital flow reversals, sharp widening of spreads on sovereign and corporate debt, and abrupt currency depreciation - the *decoupling*

theory has almost completely lost credibility. The growth prospects of emerging and developing economies (EDEs) have most definitively been undermined by the ongoing crisis with, of course, considerable variations across countries. IMF's World Economic Outlook (WEO) revised the global output growth downwards to 3.25% with the Euro area economy expected to go into a mild recession in 2012 as a result of the rise in sovereign yields, the effects of bank leveraging and the impact of additional fiscal consolidation. The EDEs are also expected to post lower growth on account of worsening external environment and a weakening internal demand.

The sovereign debt crises impact the cross-border capital flows and corporate market access (Reinhart, Rogoff, and Savastano, 2003). Only a small body of literature scrutinizes the determinants of capital market access by sovereign borrowers (see Gelos, Sandleris, and Sahay 2011; Erce, 2008), and Fostel and Geanakoplos (2008) offered well-described facts on sovereign bond issuances in emerging markets. However, the general link between sovereign and private sector access to external capital in emerging markets remains largely unexplored. The most prominent channel linking sovereign and private sector balance sheets is the insolvency of banks. The largest ticking bomb for public balance sheets is the debt of the banking sector. The banking crises often develop into sovereign debt crises or vice versa. Since the crisis started in 2008, we have witnessed unprecedented write-down by financial institutions and large-scale government bailouts. The collateral damage from the banking crises spills over to public balance sheets in the form of increasingly unsustainable debts. Given that the sovereign debt of the affected countries is present in the balance sheets of banks and insurance companies across the world, contagion effects and financial instability could spread through the global financial system. The financial crisis has demonstrated that the globalized banking system can play a crucial role in transmitting the crisis from the advanced economies to various parts of the world, particularly emerging markets. The EU crisis also bears lessons for making a choice in the manner in which foreign banks operating in emerging economies should be allowed by the regulators to expand, that is, through the route of subsidiaries or through the branches.

Massa et al. (2011) identify three major channels of impact in connection with the EU crisis through (i) financial contagion effects, (ii) fiscal consolidation effects, and (iii) exchange rate effects. Financial contagion effects occur in the form of spillover through financial intermediaries like banks and stock markets as well as in the form of shifts in investor sentiment and changes in investors' perception of risks. Fiscal consolidation effects could be seen when the series of austerity packages enacted in several European

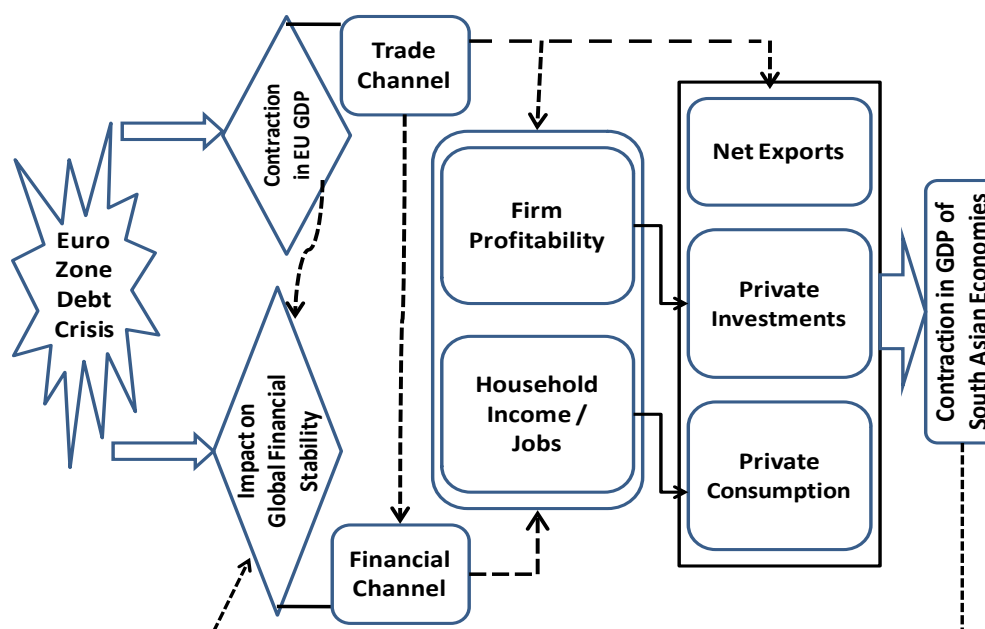
economies led to a considerable rise in unemployment and weakened growth, which had still not fully recovered after the 2008–2009 global financial crisis.

ADB (2012) observes that the impact of a renewed global crisis on growth in each country would depend critically on the size and composition of trade. Countries with the most dependence on the European markets such as Bangladesh and Sri Lanka export to Europe with 6% – 12% of output, and this brings abrupt declines in foreign demand. In economies such as Nepal, Pakistan, and Afghanistan that export primarily manufactured or agricultural products, the risks of a European crisis may not be that severe, although not negligible. In these economies, exports to Europe account for less than 3% of output. However, some of these economies may be affected by other effects of the crisis. While India could be vulnerable to a sharp withdrawal of private lending, Nepal receives substantial remittances that could decline with the crisis. However, the extent to which these economies affect more than other open economies would depend on the strength and speed of the crisis impact on other major markets, principally the advanced economies outside Europe with which South Asian countries have significant economic ties.

Channels of Impact

Sovereign debt crises have far-reaching consequences and usually go hand in hand with (or can be traced to) banking and – in many cases – currency crises. Hence, managing and resolving sovereign debt crises pose unexpected challenges to policymakers. Crucial actions and reforms have been taken over the past two years to tackle the current European debt crisis. However, given their numerous transmission channels, these measures have been the subject of intense debate among the decision-makers, experts, media, and the general public. EU crisis can impact South Asia through five broad channels such as the banking sector, commodity markets, currency markets, investments, and trade. While the first four can be grouped under the financial channel, we can comprehend and illustrate the impact of the two broad channels of transmission, namely, financial and trade channels (refer to Figure 3).

Figure 3. Graphical Presentation of the Impact of the Euro Debt Crisis



On the real sector side, South Asia is exposed to the Euro debt crisis mainly through the trade channel, with potential subsequent spillover effects on private investment and consumption spending. The fall in South Asian exports could be exacerbated by constraints on trade finance, as funding pressures drive banks to withdraw credit lines, particularly for risky borrowers. A drying-up of trade finance facilities is a real threat, as these countries are likely to be cut off before high-income exporters, while European banks provide most of the dollar-denominated trade finance in Asia. Replacing trade finance sources during a period of international crisis would be difficult, underlining the importance of establishing credit commitments at an early date. The declines in remittances and tourism too would have an impact in some countries. A recession in Europe and the US, coupled with a fall in oil prices which would reduce demand for workers in the rich oil exporters, would cut remittance receipts.

Impact on Capital Flows

Investments in the Indian economy have slowed down due to the protracted EU crisis. Foreign direct investment (FDI) to India, excluding disinvestments and repatriation,

during April and December 2012 of US\$ 21.1 billion stood lower compared to the level attained during the corresponding period of the previous year in 2011 (US\$ 28.7 billion). The moderation in FDI to India was recorded under both equity and debt flows. The net FDI inflows to India (inward FDI minus outward FDI), however, declined during Q3 of 2012-13 to US\$ 2.5 billion from US\$ 5.0 billion in Q3 of 2011-12. The net inflows under financial account rose to US\$ 31.1 billion during Q3 of 2012-13 (US\$ 20.6 billion during Q3 in the previous year). This was mainly on account of net portfolio inflows of US\$ 8.6 billion during Q3 of 2012-13 as compared with an inflow of US\$ 1.8 billion in Q3 of 2011-12 (refer to Table 2).

Table 2. Disaggregated Items of Financial Account

	Oct-Dec 2011	Oct-Dec 2012	Apr-Dec 2011	Apr-Dec 2012
Foreign Direct Investment (FDI) to India	6.9	4.8	28.7	21.1
FDI into India – Financial Services	2.4	2.2	-	-
FDI into India – Business Services	1.3	0.5	-	-
Loans to India	8.1	7.2	15.7	14.4
External Commercial Borrowings (ECB)	-0.8	3.1	6.9	4.7
Loans by India – ECB	0.5	-0.1	1.2	-0.2
Reserve Assets	12.8	-0.8	7.1	-1.1

Note: Figures in (US\$ Billion)
Source: RBI (2013)

Net external loans availed by banks stood at US\$ 2.7 billion in Q3 of 2012-13 as against outflows of US\$ 8.7 billion in Q3 of 2011-12 mainly due to drawing down of Nostro balances and higher overseas borrowings by the banks. Table 3 shows the sector-level decline in FDI inflows during the period was mainly in the case of manufacturing, financial services, business services, and communication services.

Table 3. FDI Inflows by Sectors

FDI into India	Apr-Dec 2011	Apr-Dec 2012
Financial Services	2.4	2.2
Business Services	1.3	0.5
Communication Services	1.5	0.1
Manufacture	8.0	4.8
Electricity and other	1.0	1.0
Computer services	0.5	0.2
Construction	1.7	1.0
Restaurants and Hotels	0.7	3.1
Others	2.1	1.0
Total	19.2	13.9

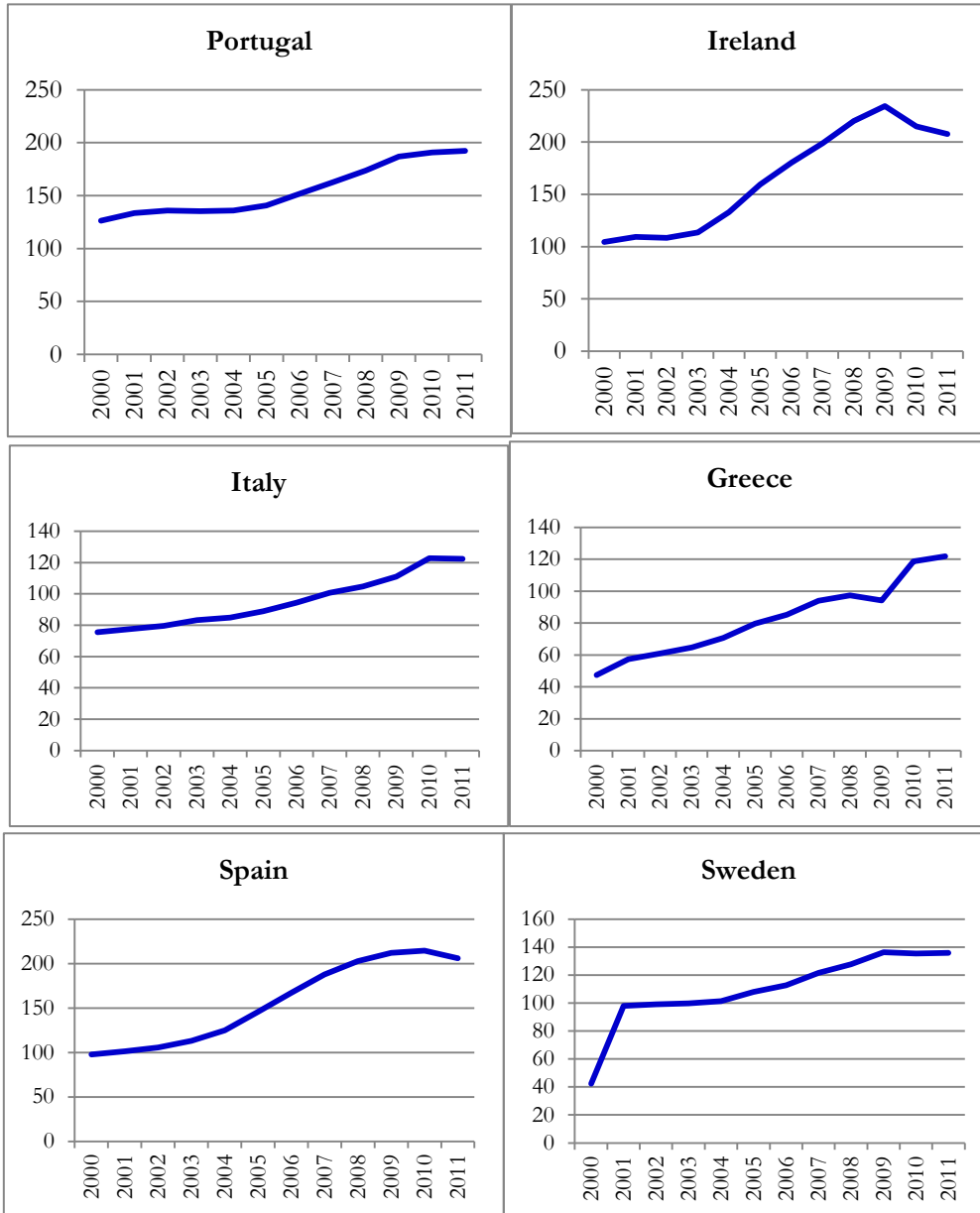
Note: Figures in (US\$ Billion)

Source: RBI (2013)

Implications for Banking Sector

In the run-up to the crisis, the Eurozone experienced strong credit booms as the euro banks could easily borrow from international financial markets in their own currency – Euro. Further, with lower interest rates and easy credit availability stimulated the consumption and mortgage borrowing (Fagan and Gaspar, 2007). This led to a sharp rise in the domestic credit levels in the EU. Figure 4 illustrates the growth of domestic credit in select EU countries compared to Portugal, Ireland, Italy, Greece, Spain, and Sweden. One of the key predictors of a banking crisis is the scale of the domestic credit preceding the boom (Gourinchas and Obstfeld, 2012). There was a sudden upshot in the dispersion of domestic credit and heating up of current account deficits during 2003-07, although not during the onset of euro in 1999 (Lane and Pels, 2012; Lane and McQuade, 2012).

Figure 4. Growth of Domestic Credit in the Euro Area

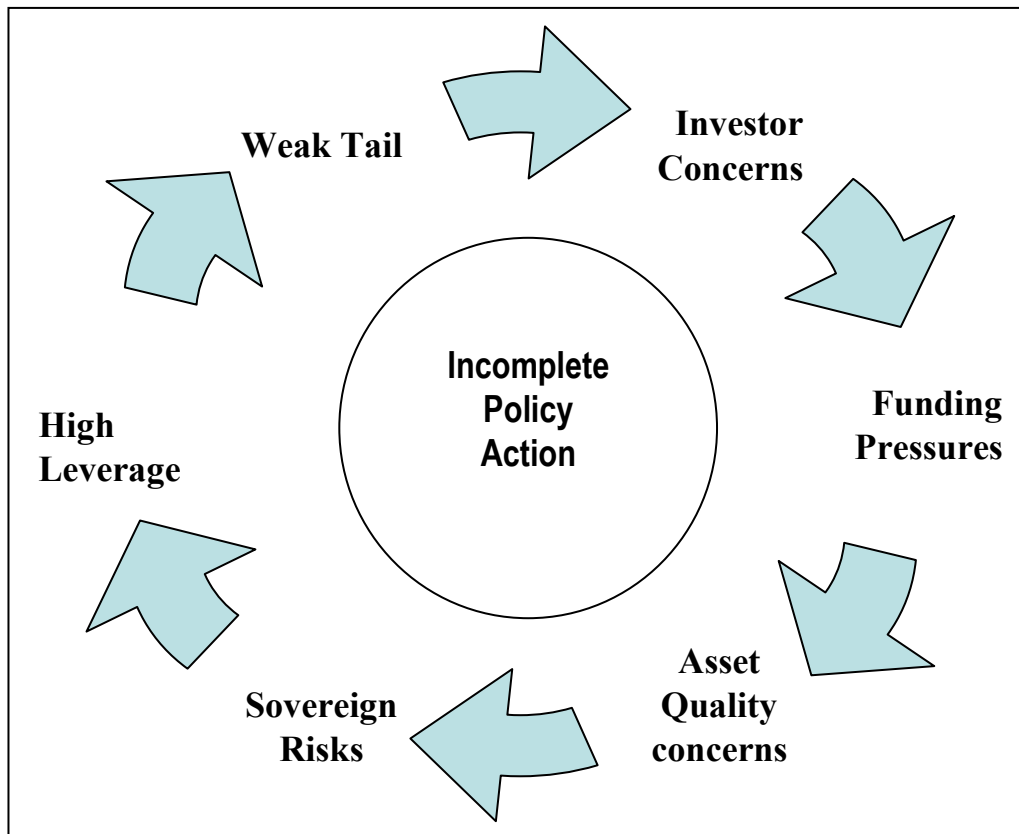


Note: The figure captures domestic credit to private sector (% of GDP) in select EU economies
 Source: World Bank's World Development Indicators

The crisis has posed serious challenges for the banking sector. Deficient policy actions and not enough reforms of the banking sector have left segments of the global

banking system vulnerable to further shocks. Many institutions, particularly weaker European banks, are caught in a maelstrom of interlinked pressures that are intensifying risks for the system as a whole (refer to Figure 5).

Figure 5. Banking Sector Challenges

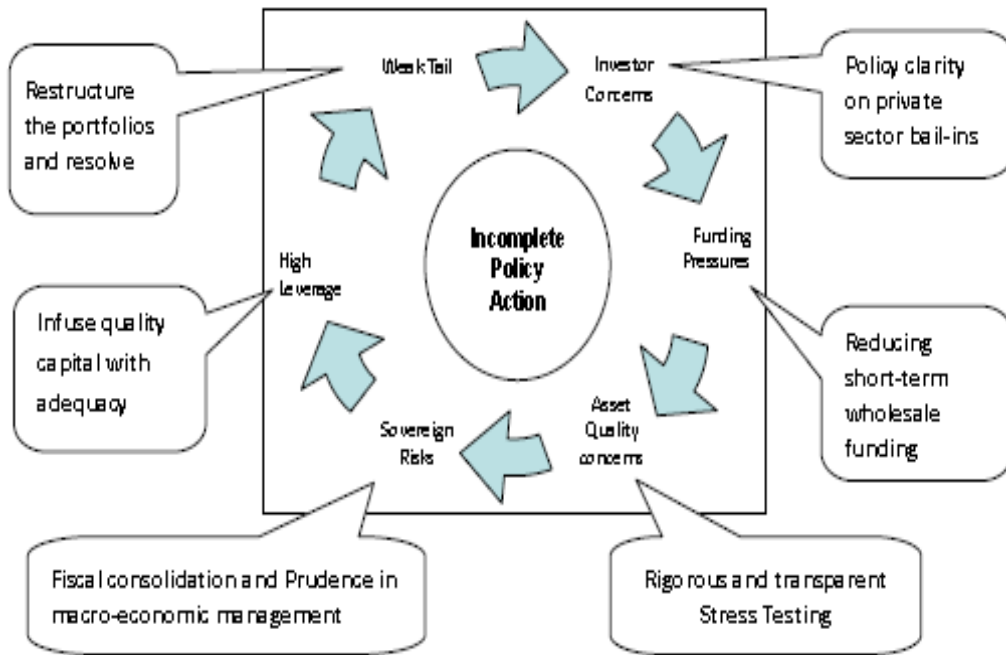


In order to address the challenges posed by the debt crises, the affected countries could consider some of the solutions such as: (i) restructuring the portfolios of the banks to strengthen the tail, (ii) providing policy clarity on the private sector bail-ins to address the investor concerns, (iii) reducing the reliance on short-term wholesale funding to relieve the funding pressures, (iv) introducing rigorous stress tests and transparency in governance mechanisms to address to the asset quality concerns, (v) tightening fiscal consolidation and being prudent in macroeconomic management than populist to address

the sovereign risks, and (v) infusing the enough quality capital to address leverage concerns (refer to Figure 6).

Concerns on Europe’s banks have been teeming in the background for some time as inadequately capitalized banks were holding up poorly financed governments, which in turn are expected to support those banks. After a brief lull reflecting the hefty liquidity injection by the European Central Bank (ECB), concerns have again arisen about a sustainable solution to the sovereign debt crisis and the escalating vulnerability of the banking sector. Heightened risk aversion and the ensuing decline in capital flows will have an adverse impact on emerging economies including India. For the emerging markets such as China and India, the EU accounts for a significant market. Therefore, stagnation or a downturn in the EU will undoubtedly dent their export growth.

Figure 6. Banking Sector Challenges: Suggested Measures



For the Chinese – who were looking for opportunities to make bargains during the fire sale of assets, the EU crisis posed both as threats and opportunities. In India, the crisis poses more threats than opportunities. FDI from EU during 2010 amounted to €3.0 billion, while India invested about €0.6 billion in the EU. Per se, a slowdown in the EU had a major adverse impact on India’s exports as evidenced in Figure 7 and Table 4. Figure 7 presents India’s external debt position and its debt-service ratio and Table 4 reports India’s overall debt position for the period 1981 to 2012.

Figure 7. India’s External Debt



Source: Reserve Bank of India database

In general, EU has been a vital source of foreign bank loans for developing Asia. The conflux of funding strains and sovereign risks led to fears of a precipitous deleveraging process that could hurt financial markets and the wider economy via asset sales and contractions in credit. Many European banks have announced medium-term business plans for reducing assets. The impact is likely to differ significantly across regions, with larger effects expected in emerging Europe than in Asia or Latin America. In the Indian context, the claims of European banks, amounting to US\$ 146 billion, formed 53% of total consolidated foreign claims. Of this, 56% pertained to claims of banks in the UK. According to data from the BIS, in September 2011 India’s borrowings from Eurozone banks amounted to around US\$ 57 billion. While the share of borrowings from the

Eurozone in total foreign bank borrowings was to the extent of 17.9%, borrowings from Eurozone banks as a share of domestic credit was at 4.4 %.

Table 4. Government of India's Debt Position

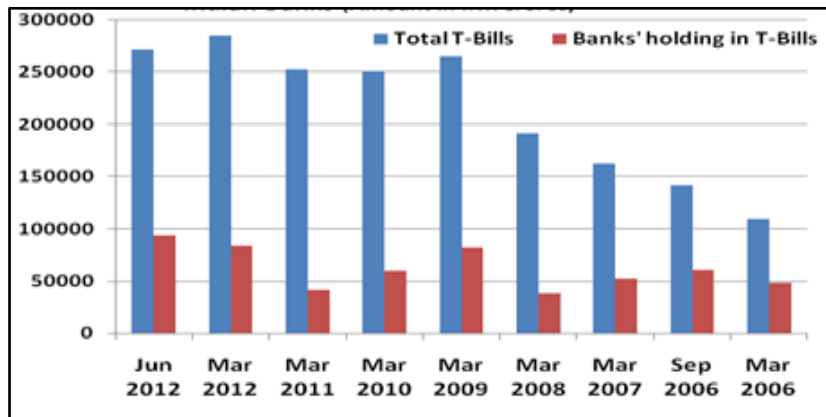
Year	Domestic Liabilities	External Liabilities	Year	Domestic Liabilities	External Liabilities
1980-81	33.33	7.77	1996-97	45.08	3.93
1981-82	32.70	7.22	1997-98	47.34	3.62
1982-83	37.26	7.16	1998-99	47.66	3.27
1983-84	36.02	6.80	1999-00	49.31	2.99
1984-85	38.84	6.67	2000-01	52.45	3.14
1985-86	42.42	6.45	2001-02	56.82	3.14
1986-87	46.45	6.45	2002-03	61.09	2.43
1987-88	48.16	6.49	2003-04	61.37	1.67
1988-89	48.06	6.06	2004-05	59.64	1.88
1989-90	49.18	5.81	2005-06	58.64	2.55
1990-91	49.69	5.53	2006-07	56.72	2.39
1991-92	48.53	5.64	2007-08	54.65	2.25
1992-93	47.79	5.62	2008-09	53.93	2.19
1993-94	49.74	5.47	2009-10	52.59	2.08
1994-95	48.01	5.01	2010-11	49.19	2.04
1995-96	46.57	4.30	2011-12	46.92	1.92

Source: Reserve Bank of India database

There could be funding constraints for Indian bank branches operating overseas if European banks deleverage. The cost of borrowing for banks and corporates, as a result, may go up leading to concerns over refinancing foreign currency liabilities. Due to the slump in the overseas demand and the associated downturn in investment activity, there was sluggishness in the credit as well as asset growth of Indian banking sector during 2011-12. According to RBI data, at the end of September 2011, there are only 37 branches and three subsidiaries of Indian banks in the EU, and none of them is in Portugal, Italy, Greece, and Spain. Out of the 37 branches, 30 branches are in the UK, three branches in Belgium and two each in Germany and France. All of the three subsidiaries are in the UK. Their combined share in the aggregate banking sector assets stood at 3% in September 2011.

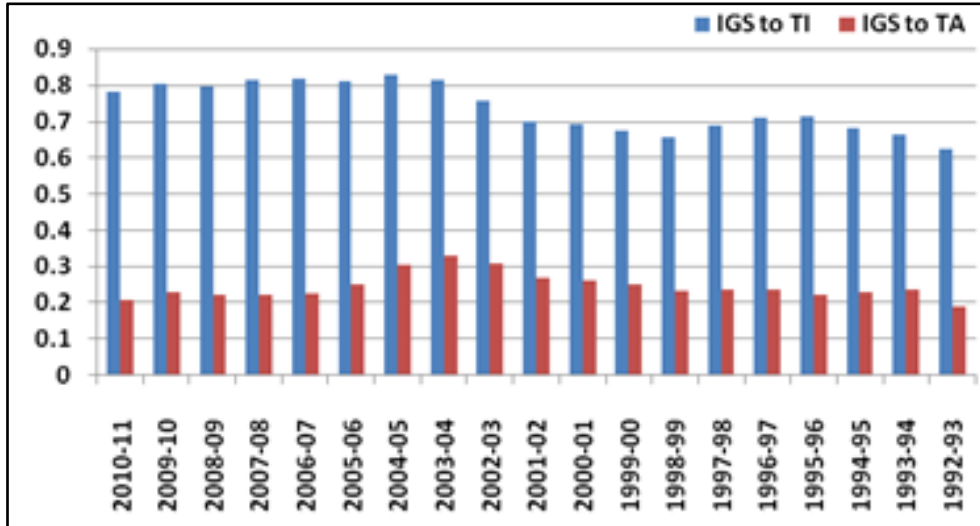
One significant lesson could be, though it is hard to argue that banks should only raise debt resources through retail deposits, at the same time, the current episode shows that large-scale reliance on wholesale debt, specifically, from across borders can tilt the financial stability. Of course, though the Indian banking system conventionally relied on retail deposits, which, despite the high cost serve as a stable source of funding, any substantial shift towards wholesale debt funding may not be a desired one. The second inference, that we can draw could be, India's continuance of making the banks hold the public debt (due to its high fiscal deficit) hitherto as a vestige of the era of financial repression may not hold prudence all the time as the EU crisis raises the question of whether the sovereign debt of a country can be held largely outside a country in portfolios that keep getting churned and subjected to day to day re-pricing. Figure 8 presents the number of investments of Indian banks in the Government of India Treasury Bills (T-Bills) and Figure 9 shows the investments of Indian banks in the government securities.

Figure 8. Indian Banks' Investments in India T-Bills



Source: Reserve Bank of India database

Figure 9. Indian Banks' Investments in India T-Bills



Source: Reserve Bank of India database

Impact on foreign claims on Indian banks

In view of the prolonged EU crisis, net external loans availed by banks stood at US\$ 2.7 billion in the third quarter (Q3) of 2012-13 as against outflows of US\$ 8.7 billion in Q3 of 2011-12. Similarly, the consolidated claims of foreign banks in India have experienced a gradual decline due to the impact of the crisis (refer to Table 4). Particularly in the Indian banks, the outstanding consolidated claims of the foreign banks have experienced a negative change of 2.22 % (i.e., from US\$ 83,553 mn in End-September 2011 to US\$ 81,731 mn in End-September 2012).

**Table 4. Consolidated Claims of Reporting Banks:
Immediate Borrower Basis on India by Maturity and Sector**

	Total foreign claims on a contractual basis (A+L)	Consolidated cross-border claims in all currencies and local claims in non-local currencies					
		Total International Claims (A)	Maturities			Sectors	
			Up to and including One year (B)	One year and up to two years (C)	Over two years (D)	Banks (E)	Public sector (F)
End- September 2011	320914	224460	139213	12311	51892	83553	10632
End- September 2012	331902	234763	139515	11598	57739	81731	10530
%age change	3.4	4.5	0.2	- 5.79	11.26	- 2.22	- 0.96

Source: BIS (2012) and BIS (2013)

Note: Amounts outstanding figures in millions of US dollars

Further, the external positions of foreign banks on India (according to BIS statistics) have nosedived from US\$ 36,987 mn in December 2010 to US\$ 32,194 mn in December 2011, US\$ 30,092 mn in June 2012 and the US\$ 29,515 mn in September 2012.

**Table 5. Consolidated Foreign Claims and Other Exposures of Reporting Banks:
Ultimate Risk Basis on India by Sector and Type**

Period	Consolidated cross-border and local claims in all currencies					Other exposures (not included in Foreign Claims)		
	Total foreign claims of 24 countries	Banks	Public Sector	Non- bank private sector	Of which cross- border claims	Derivat ives contrac ts	Guarantees extended	Credit commit ments
September 2011	283645	75413	32033	176039	174439	17594	42465	54576
September 2012	287707	73039	37614	176838	174124	12143	34202	41153
%age change	1.43	- 3.15	17.42	0.45	- 0.18	- 30.98	- 19.45	- 24.60

Source: BIS Quarterly Review, March 2012 and BIS Quarterly Review, March 2013

Note: Amounts outstanding figures in millions of US dollars

On a comparison of the consolidated foreign claims and other exposures of foreign banks on the ultimate risk basis in India by sector type, we find that, consolidated cross-border claims on the Indian banks experienced downward trend with a negative growth of 3.15% with the outstanding level of US\$ 75,413 mn in end-September 2011 to US\$ 73,039mn in end-September 2012 (Table 5). Similarly, the exposures under derivatives contracts have nosedived to negative growth of 30.98%. The guarantees extended experienced a fall of 19.45% and the credit commitments have declined by 24.60%.

Our observation that the Eurozone sovereign debt crisis has impacted the Indian banking sector further stands supported by the fact that there has been a significant fall in the claims of the EU banks in India. Table 6 presented here below depicts the consolidated foreign claims on India of the foreign banks based on their country of origin. The claims of European banks in India came down from the US\$ 13,354 in end-September 2011 to US\$ 12,362 mn in end-September 2012, thus experiencing a downfall of 7.54 %. Most of the foreign claims from countries like Italy, Ireland, Denmark, France, Luxemburg, Cyprus, Norway, and the Netherlands have drastically come down during the crisis period.

**Table 6. Consolidated Foreign Claims of Reporting Banks:
Ultimate Risk Basis on India**

	End-September 2011	End-September 2012	% change
All countries	44581	46198	3.62
Developed Countries	27108	26122	- 3.64
Other Developed Countries	13754	13760	0.04
Developing Countries	8735	9498	8.73
Offshore centers	7965	9500	19.27
Europe	13354	12362	- 7.54
Belgium	969	1122	15.78
Cyprus	197	183	- 7.10
Denmark	99	85	- 14.14
Finland	45	41	- 8.88
France	964	762	- 20.95
Germany	2461	2077	- 15.60
Ireland	258	71	- 72.48
Italy	233	160	- 31.33
Luxembourg	161	58	- 63.97
Malta	275	1	- 99.63
Netherlands	1468	1276	- 13.07
Norway	101	17	- 83.16
Portugal	32	34	6.25
Spain	109	125	14.67
Switzerland	684	714	4.38
United Kingdom	5172	5361	8.87

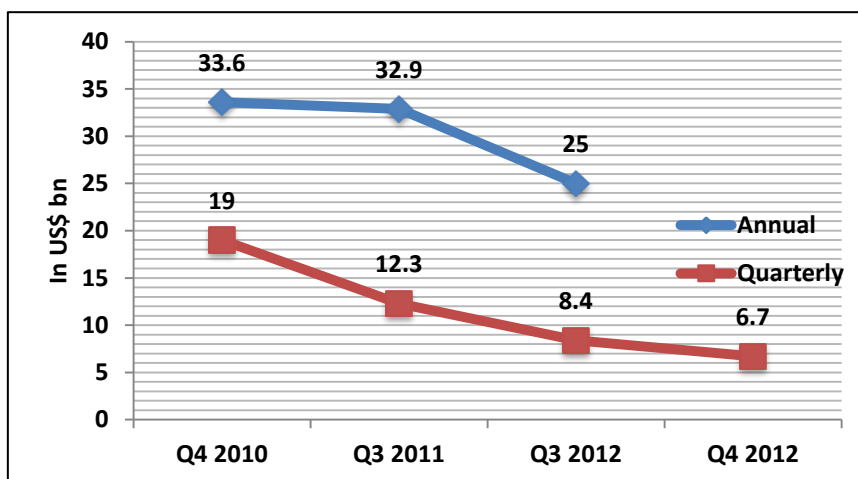
Source: BIS Quarterly Review, March 2012 and BIS Quarterly Review, March 2013

Note: Note: Amounts outstanding figures in millions of US dollars

Impact on syndicated credit facilities

We also analyzed the trend of the international syndicated credit facilities in India for the period from 2010 to 2012 in order to discern the impact of the Eurozone crisis. We observe that international syndicated credit facilities in India have slipped down from the US\$ 33.6bn in 2010 to the US\$ 32.9bn in 2011 and the US\$ 25.0bn in 2012 (see Figure 10).

Figure 10. Signed International Syndicated Credit Facilities in India



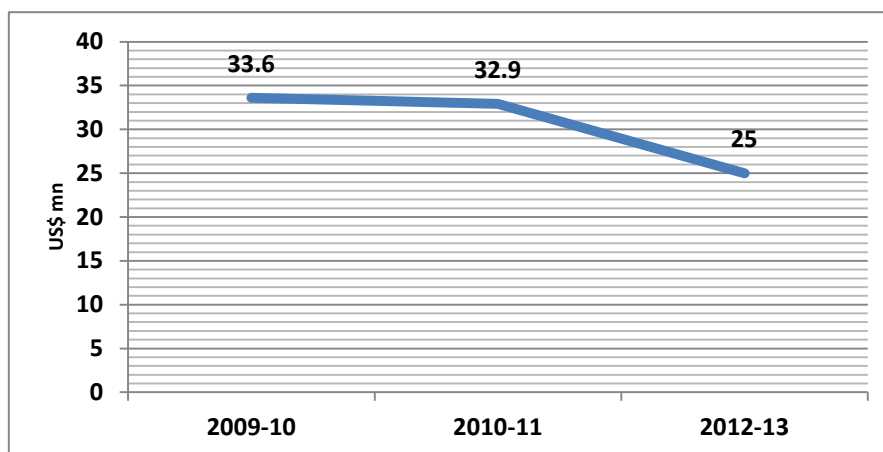
Source: BIS (2012) and BIS (2013)

This reduced activity under syndicated credit facilities has dampened the fundraising scenario for the Indian banks, financial institutions, and institutional investors.

Impact on portfolio investments in India

There has been a steady slide in the portfolio investments in India due to the impact of the Eurozone crisis. We find in our analysis that, portfolio investments in India (according to *RBI Monthly Bulletin* June 2011 and June 2013) came down from US\$ 32,376mn in 2009-10 to the US\$ 31,471 to 2010-11 (see Figure 11) and came further down to the US\$ 27,264mn in 2012-13.

Figure 11. Portfolio Investments in India



Source: Data sourced from RBI Monthly Bulletin June 2011 and June 2013

The Eurozone crisis, apart from its negative impact on portfolio investment capital inflows, could also affect the European involvement in the merger and acquisitions activities in the Indian corporate sector. With the EU remaining sluggish, the appetite of European companies for M&A in India has declined.

CONCLUSION

This study has assessed the EU macroeconomic instability and its contagion effects on emerging market economies. In view of the sizeable economic weight of the EU in the world, there is a renewed interest among the researchers in analyzing the implications of euro debt crisis on the EDEs in general and particularly on India. Even though the crisis was epicentered in the EU, its knock-on effects were felt all across the globe. The EDEs experienced lower growth in view of the worsening external environment and a weakening internal demand during the period of the Euro debt crisis.

The impact of the Euro debt crisis on the banking sector was severe as it led to the funding constraints for Indian bank branches operating overseas as the European banks deleveraged. Due to the crisis effect, during the year 2011-12, there was sluggishness in the credit and asset growth of the Indian banking sector. The impact of

the crisis on the syndicated credit facilities shows that the international syndicated credit facilities in India for the period from 2010-2012 experienced a significant decline.

One significant lesson could be, though it is hard to argue that banks should only raise debt resources through retail deposits, at the same time, the current episode shows that large-scale reliance on wholesale debt, specifically, from across borders can tilt the financial stability. Of course, though the Indian banking system conventionally relied on retail deposits, which, despite the high cost serve as a stable source of funding, any substantial shift towards wholesale debt funding may not be a desired one. One of the important inference for Indian banking could be, India's continuance of making the banks hold the public debt hitherto as a vestige of the era of financial repression is not desirable all the time as the EU crisis raises the issue of whether the sovereign debt can be held largely outside a country in portfolios that keep getting churned and subjected to day to day re-pricing.

European macroeconomic instability due to the debt crisis also holds lessons for making a prudent choice in the manner in which foreign banks should be allowed to expand in emerging economies (i.e, whether through the route of subsidiaries or through the branches). This study has analyzed the causes and consequences of euro debt crisis on the emerging market banking sectors in the general and Indian banking sector in particular, in the light of the widely believed argument that bank exposure to sovereign debts and the weak economy are perpetuating financial sector fragility, which in turn is spurring continued deleveraging. It is suggested that the emerging markets need to strengthen their firewalls to protect themselves from the ill effects of contagion due to such crises.

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THE CONTAGION EFFECTS OF EUROPEAN UNION MACROECONOMIC
INSTABILITY IN EMERGING MARKETS: EVIDENCE FROM INDIA

Appendix 1. European Debt Crisis: A Timeline of Events

Oct 09	Greek prime minister George Papandreu discloses the country's severe fiscal problems in his first parliamentary speech.
Nov 09	The Greek government reveals a revised budget deficit of 12.7% of GDP for 2009, double the previous estimate.
Jan 10	The European Commission publishes a report criticizing the Greek budget deficit.
Feb 10	Eurozone leaders promise to provide financial support to Greece if it reduces its fiscal deficit.
Apr 10	Standard & Poor's downgrades Greece (to BB+) and Portugal (to A-), with Spain, downgraded (to AA) on the following day.
May 10	The Greek government accepts the €110 billion EU-IMF support package. The Spanish parliament approves a fiscal austerity package. Fitch downgrades Spain to AA+. The Portuguese parliament approves a fiscal austerity package.
Jun 10	Spain's Council of Ministers approves the labor market reform. The European Council announces that the EU bank stress test results will be published. In Italy, union rallies force the government to redraft its fiscal austerity package.
Jul 10	The Committee of European Banking Supervisors (CEBS) releases the results of the EU bank stress tests.
Oct 10	The French and German governments agree to take steps that would make it possible to impose haircuts on euro area sovereign bonds. A European Council statement makes it clear that other EU governments have agreed to the proposal on government bond haircuts.
Nov 10	The Irish prime minister announces that the government has requested financial support from the European Union and the IMF. The Irish government accepts a €68 billion EU-IMF support package
Mar 11	Portuguese Prime Minister José Sócrates resigns when opposition politicians reject his proposed austerity budget. Portuguese government bond yields rise to unsustainable levels as Fitch and Standard & Poor's cut their ratings of Portuguese sovereign debt.
May 11	European leaders approve a €78 billion (\$110 billion) bailout package for Portugal on the condition that Portuguese officials implement a series of austerity measures.
June 11	Standard & Poor's downgrades Greece's credit rating to CCC, making it the country with the world's lowest-rated sovereign debt.
July 11	Unimpressed with Portugal's recovery in the wake of the May 2011 bailout package, Moody's rating agency lowers the country's debt rating to junk status.
Sept 11	Switzerland, a non-EU country surrounded by euro-zone economies, has watched its currency, the franc, appreciate dramatically against the struggling euro. With export and tourism revenues falling, the Swiss National Bank stuns the international currency market by devaluing the franc and pegging its value to that of the euro.
Jan 12	Standard & Poor's downgrades nine euro-zone countries, stripping France and Austria of their AAA ratings and classifying the debts of Portugal and Cyprus as junk. This makes Portugal the second European country (after Greece) to have its debt downgraded to non-investment status by all three rating agencies. Portuguese 10-year-bond yields skyrocket in response to the news, eventually reaching a euro-era record 18.29 %.
Mar 12	On March 2, 25 EU countries sign the new pact on fiscal discipline. While it will be binding only for those countries that use the euro, the other signatories can choose to abide by its guidelines.
Jun 12	On June 9, the Spanish government requests €100 billion (about \$125 billion) in financial assistance from the EU to recapitalize its banks.
July 12	Spanish 10-year bond yields again top 7 %, while yields of German and Austrian 2-year bonds drop to below zero. German, Austrian, French, and Belgian borrowing costs reach historic lows as investors seek a safe financial haven at the core of the euro area.

Source: Compiled by the author

Appendix 2. The Fiscal Position of Select Economies in the Context of the Euro Debt Crisis

Country	Fiscal and Debt Fundamentals			Financing Needs		External Funding	Banking System Linkages			Sovereign Credit	Sovereign CDS	
	Gross general government debt 2011	Net general government debt 2011	Primary balance 2011	Gross general government debt		General Government debt held abroad	Domestic depository institutions' claims on general government		BIS reporting banks' consolidated international claims on the public sector	Rating/Outlook (notches above speculative grade/outlook) (as of 3/10/11)	Five-year (basis points) (as of 3/9/11)	
				2011	2012		(% of 2010 GDP)	(% of depository institutions' consolidated assets)				
Australia	24.1	7.8	-2.1	4.5	3.3	43.4	2.2	1.2	3.2	9	Stable	51
Canada	84.2	35.1	-4.1	18.5	16.4	19.6	19.6	10.3	3.6	10	Stable	n.a.
Denmark	45.6	4.4	-3.2	9.3	9.8	41.8	15.5	3.2	6	10	Stable	44
France	87.6	77.9	-3.5	20.6	19.7	64.4	19	4.7	8.8	10	Stable	85
Germany	80.1	54.7	-0.3	11.4	10.5	52.8	25.4	7.6	10.4	10	Stable	48
Greece	152.3	n.a.	-0.9	24	26	61.5	27.4	12.2	23.3	-1	negative	1,037
Ireland	114.1	95.2	-7.5	19.5	18	59.4	28.2	2.8	8.7	3	negative	587
Italy	120.3	100.6	0.2	22.8	23.1	47	32.1	13.1	15.2	7	Stable	180
Japan	229.1	127.8	-8.6	55.8	52.5	6.9	76.3	23.7	1.6	7	negative	77
Korea	28.8	27.5	3.5	8.9	5.8	11.5	6.1	4.4	4.8	5	Stable	98
Netherlands	65.6	30.5	-2.2	19.9	16.6	66.4	13.8	3.6	9.2	10	Stable	47
Portugal	90.6	86.3	-1.6	21.6	21	56.7	15.7	4.8	17.2	5	negative	498
Spain	63.9	52.6	-4.6	19.3	18.7	49.6	22.3	6.8	7.1	8	negative	253
Sweden	37.3	-13.8	-0.9	5.4	4.6	45.2	6.5	2.3	5.3	10	Stable	33
UK	83	75.1	-5.5	15.7	13.6	26.8	6.9	1.5	2.9	10	Stable	58
USA	99.5	72.4	-9.0	28.8	25.6	31.9	7.7	5.3	3.7	10	Stable	43

Source: Compiled by the author from World Economic Outlook updates of IMF