CHAPTER - II
REVIEW OF LITERATURE

INTRODUCTION

A number of studies have been carried out from time to time by various researchers / institutions to analyse the structure and impact of External Debt on Economic Growth in India and other foreign countries. We need not go into the deep analysis of all these studies but a cursory glance at some of the important studies relating to a present study is a must. There are many studies which explain the effect of external debt on economic growth. Some studies found that there is negative impact of external debt on economic growth while some shows that there is positive impact of external debt on economic growth. Similarly, some studies are based on time series data where as some are based on panel data. Some studies used simple regression analysis where as some have used granger causality test and co-integration test for analysis purpose.

The analysis of structure of external debt is a very significant study as being revealed by the review of literature. It is found that there is no dearth of literature on this topic under study. Following section presents a brief review of prominent studies carried out by researchers in India and abroad

STUDIES RELATED TO INDIA

Bhagwati and Srinivasan (1975)\(^1\) the industrialization policies pursued by India in pre-reform period protected domestic Industries from foreign competition but led to excessive or inappropriate state intervention in the market resulting in high

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\(^{1}\) Bhagwati, Jagdish and Srinivasan, T.N. (1975), Foreign Trade Regimes and Economic Development: India, Columbia University Press, New York
cost and low growth in Indian economy.

Bhagwati and Srinivasan (1993)\(^2\) argue that the crisis of 1991 was not governed by external factors rather was only an outcome of internal causes of weak policy regimes of 1980’s.

Calvo et al (1993)\(^3\) provide evidence of lending and borrowing interest rates in Latin America and United States for the period 1988-1992. He estimates that a relatively high interest rate differential on Latin American assets during the above time period, attracted major rise in capital flows in that region. On the other hand, in Chile there was a less pronounced impact of inflows on the interest rate differential.

Ahluwalia (1994)\(^4\) while rejecting the arguments of the critics of economic reforms considered India’s efforts of liberalising its economy since 1991 as an ‘economic revolution’. He, however suggested a cautious approach towards opening up of route to foreign capital since it brings in the elements of volatility.

Chowdhury (1994)\(^5\) attempted to resolve the controversy of cause and effect relationship between external debt and economic growth, by conducting granger causality tests for Asian and Pacific Countries over a period of 1970-88. He found that both public and private external debt have a relatively very small impact on GNP and both have opposite signs. He found that any


increase in GNP leads to a higher level of external debt, but overall external debt does not have any negative impact on economic growth.

Chandrasekhar (1995)\textsuperscript{6} considered the crisis of 1991 purely ‘speculative in nature’ caused by speculative outflows from Indian economy that continued the pressure on balance of payments despite reduction in trade deficit. A very vital, daring and worrisome feature of India’s economic reform according to them was that, there was no urgent need of bringing about structural changes in 1991 since the condition could have come under control by soft conditionality of IMF loans. It was the ‘liberalisation lobby’ that consisted of International Monetary Fund, World Bank, Government elements and Indian business class that made use of this unprecedented economic crisis by introducing ‘liberalisation’. They suggested combination of three measures to control financial flows volatility in India namely direct regulations, an overall sound balance of payments and above all, a development strategy which ensured economic advancement with social stability.

Bhattacharya, Mukhopadhyay and Panda (1996)\textsuperscript{7} examined the position of Indian trade sector in post 1991 period through Net Export Specialization Indices and intra-industry trade. The study found a marginal change in the position of trade sector in post 1991 period and a rise in intra-industry trade calling for further liberalization of foreign trade of India.

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Deshpande (1997) also came out with similar result from his study of the experience of 13 severely indebted countries for the period 1971 – 1991, although during the first half of the period (1975 – 1983), there were some favourable time factors that showed a strong positive effect of external debt on investment.

Prasad (1997) examined the impact of economic reforms on exports of India and came to the conclusion that during 1990-1991 to 1994-1995, India experienced a high growth compared to growth rates of world exports. The study also revealed that the growth in the values of exports from India was mainly due to growth in quantity of exports and not due to real increase in unit values. This showed that Indian exports were becoming more competitive in terms of prices.

Ajayi and Iyoha (1998), presented an empirical investigation of the impact of external debt on economic growth in the severely indebted low income countries (silics) of sub-saharan Africa. Using data from 1990 to 1997, a simultaneous equations model was econometrically estimated. Debt overhang is shown to have significant depressing effect on growth. Although the debt overhang models do not analyse the effects of debt on growth explicitly, the implication still remain that large debt stock lowers growth by partly reducing investment with a resultant negative effect on poverty.

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Ramaswamy (1999) discussed issue of India’s external sector and attributed its neglect to the limited international linkages of industrial firms and production. Accordingly a significant way of gaining entry into global market was through incorporation of Indian firms into international networks of trade and production. To enhance the competitiveness of India’s export sector following routes were suggested by the author to be used by the Indian industry to compete in world/global economy: Original Brandname Manufacturing (OBM). He also suggested measures which can make India an attractive base for international outsourcing. These included: 1. Foreign Direct Investment, 2. Infrastructure, 3. Special Economic Zones, and 4. Human Capital.

Singh (1999) has explored the relationship between domestic debt and economic growth in India by applying co-integration technique and Granger causality test for the period of 1959-95. The study supported the Ricardian Equivalence Hypothesis between domestic debt and growth in India.

Bird and Rajan (2000) studied the East Asian case for their analysis where an interest rate advantage persisted. The authors concluded that financial liberalization led to an increase in the domestic interest rates and capital was 'pulled' and not 'pushed', in other words, the persistent interest rate advantage in favor of East Asian economies was related to rising domestic interest rates rather than falling world interest rates.

Nayyer (2000)\textsuperscript{14} studied the impact of external sector reforms in India on capital account liberalisation. Mexican Crisis of 1994 was considered by the author as an important reason for discouraging India for moving ahead with capital account liberalisation in post reform period.

Virmani (2001)\textsuperscript{15} viewed external sector reforms in India since 1991 as the most successful reforms. It had disclaimed the fear of ballooning of imports in post reform period, while the performance of current account and capital account, had improved significantly.

Chakraborty and Basu (2002)\textsuperscript{16} explore the two-way link between FDI and growth by using a structural cointegration model with vector error correction mechanism. Using aggregate data for 1974-1996, they find that causality runs more from GDP to FDI. In the long run, FDI is positively related to GDP and openness to trade. Furthermore, FDI plays no significant role in the short-run adjustment process of GDP.

Kumar and Pradhan (2002)\textsuperscript{17} consider the FDI-growth relationship to be Granger neutral in the case of India as the direction of causation was not pronounced. Similar qualifications apply to Pradhan (2002) who estimates a Cobb-Douglas production function with FDI stocks as additional input variable.

\textsuperscript{17} Kumar, N., and J.P. Pradhan (2002). Foreign Direct Investment, Externalities and Economic Growth in Developing Countries: Some Empirical Explorations and Implications for WTO Negotiations on Investment. RIS Discussion Papers 27, New Delhi.
FDI stocks have no significant impact when considering the whole period of observation (1969-1997).

Sahoo and Mathiyazhagan (2002)\textsuperscript{18} corroborate what appeared to be the consensus until recently, while the Granger causality and Dickey-Fuller tests presented by Bhat et al. (2004) provide no evidence of causality in either direction. Several explanations have been offered for the at best weak impact of FDI on growth in India. The Asian Development Bank refers to concerns in India “about the apparently limited linkages between MNEs and local firms” (ADB 2004: 228). According to Kumar (2003: 27), linkages with the local economy have remained weak even in the software industry where foreign companies are said to operate as “export enclaves.”

Balasubramanyam and Mahambare (2003)\textsuperscript{19} as well as Fischer (2002) argue that the reforms implemented so far have not eliminated the distinct anti-export bias of India's trade policy. This may explain why, according to Arabi (2005) and Agarwal (2001), FDI in India has remained domestic market seeking. It is widely believed that the type of FDI and its structural composition matter at least as much for economic growth effects as does the overall volume of inward FDI.

Karagol (2003)\textsuperscript{20}, investigate the long run impact of external debt on gross national product in case of Turkey with use of multivariate co-integration technique and vector error


correction model. The study analyse unidirectional negative relationship between these two variables. Most of research done in this area based on broad time series data set. Few studies shows the country specific analysis. Most of studies show that higher external debt negative effect to economic growth.

Srinivasan and Tendulkar (2003)\textsuperscript{21} called attention towards limited capital account liberalization in India in post reform period and listed the fear against the reliability of private debt flows and the pressure of Indian industrialists who found themselves not competitive enough to face foreign Industries as the main reason for it. They suggested for corrections in India’s financial sector and recommended greater involvements of the private sector (particularly foreign based firms) in banking.

Agrawal (2005)\textsuperscript{22} estimates a fixed effects model based on pooled data for five South Asian host countries, among which India figures prominently, and the period 1965-1996. The coefficient of the FDI-to-GDP ratio turns out to be negative, though not significant. However, this approach ignores that FDI is endogenous. Moreover, the inclusion of exports as a right hand side variable may bias the coefficient of the FDI variable downwards to the extent that the growth impact of FDI may run through export promotion.

Agrawal and Shahani (2005)\textsuperscript{23} reckon that it is the quality of FDI that matters for a country like India rather than its

\textsuperscript{21} Srinivasan, T.N. and Tendulkar, S.D. (2003), Reintegrating India with World Economy, Oxford University Press, New Delhi.
quantity. (6) FDI is often supposed to be of higher quality if it is export oriented, transfers foreign technologies to the host country, and induces economic spillovers benefiting local enterprises and workers (Enderwick 2005).

Bhasin (2005)\textsuperscript{24} argued that economic reforms strengthened the external sector in India but the export potentials were not fully utilized due to reservation of small scale industries, high transaction cost and low level of factor productivity. India has liberalized its FDI regime but the inflow has been limited due to wrong government policies and their regulatory framework. The reduction in tariff in India when compared to pre-reform period has been significant in the post-reform period but when compared to other developing countries it remains high.

Mohamed (2005)\textsuperscript{25} used a time series data from 1978–2002. He used growth rate of real export earnings to capture the impact of export promotion strategy, while inflation to capture the impact of macroeconomic policy. He concluded that external debt and inflation deter economic growth, while, real exports have positive and significant impact on economic growth.

Siyanbola (2005)\textsuperscript{26} stated that the debt service obligations and poverty are positively related. A country with a huge debt burden like Nigeria, would find it difficult to utilize available resources for projects that benefit the poor.

\textsuperscript{24} Bhasin, Niti. (2005), External Sector Reforms in India, New Century Publications, New Delhi.
Chakrabarty (2006)\textsuperscript{27} contested a test of co-integration between net capital flows, real exchange rates and interest rate differential using the data from 1993-2003. In the post liberalization period, error correlation mechanism was operating and it related dynamic adjustment to capital flows to the movements in interest rate differential and real exchange rate. The paper revealed that the major changes in real exchange rate since 1993 have been due to the intervention of Reserve Bank of India in the foreign exchange market and these changes in turn led to changes in capital flows. Hence, a long run relationship was experienced among net capital flows, real exchange rate and interest rate differential.

Villanueva et al. (2006)\textsuperscript{28} used standard neo-classical growth model to explore the dynamics of capital accumulation, external debt and economic growth for Philippines over a period of 2000-2003. They used goal seek technique to estimate the steady state ratio of external debt to GDP, associated with doubling the per capita income. Additionally, he also tried to estimate the optimal savings rate that is “consistent with maximum real consumption per unit of effective labor in the long run”. He concluded that higher ratio of change in interest rate lead to change in debt-to-GDP ratio .

Anand Virmani and Susan Collins (2007)\textsuperscript{29} studied empirically India’s economic growth experience during 1960-2004 focusing on the post 1973 acceleration. The analysis

\textsuperscript{29} Ananda Virmani(2007) Excessive Debt Accumulation and the Sustainability of Fiscal Deficits: the Case of Sri Lanka
focuses on the unusual dimensions of India's experience. They find that India will need to broaden its current expansion to provide manufactured goods to the world market and jobs for its large pool of low skilled workers.

Basu and Maertens (2007)\textsuperscript{30} hailed the surge in exports particularly of Software and IT and, felt that in order to fully analyse the benefits of an open economy India should try to overcome some of the constraints: infrastructure, rampant corruption, labour and bankruptcy regulation

Boopen et al (2007),\textsuperscript{31} investigated the relationship between external public debt and the economic performance for state of Mauritius over the period 1960-2004. The results suggested that external debt have been negatively associated with the output level of the economy in both short and long run. Bicausality between public debt and economic development was also reported. Moreover, there were also evidences that public debt have negative impact on both private and public capital stock of the country thus confirming the debt overhang and crowding out hypotheses.

Singh (2007)\textsuperscript{32} discussed about the external commercial borrowings and reasons out the main causes relating to companies' overseas borrowings. In addition to this, he also considers other analytical reasons that could contribute to corporates' recourse to international capital markets. The results reveal that Indian companies' long run demand for commercial loans from overseas is predominantly influenced by the domestic


\textsuperscript{32} Singh, B. (2007). Corporate choice for overseas borrowings: The Indian evidence
activity, followed by interest rate differential and credit conditions. He tries to intensely define every aspect of external commercial borrowings including end use restrictions, end use pattern and ECBs through various routes. The rationale for this research has been developed from the historical fact that ECBs, which are used as an additional source of funding by Indian corporates' to augment resources available domestically, have suddenly become a major component of total capital flows to India.

Singh (2007)\textsuperscript{33} estimated the determinants of external commercial borrowings in India using co-integration and error correlation mechanism (ECM). He applied this method to the data (quarterly) for the period 1993-2007. The determinants taken by him were Index of Industrial Production (a proxy for real activity), interest rate differential and broad money supply (a proxy for liquidity). It has been observed that post-global crisis; the private sector has not been very aggressive in credit.

Ayadi (2008)\textsuperscript{34} investigated the impact of external debt with its servicing requirements on economic growth of Nigerian and South African economies using OLS technique, covering period 1980-2007. The researcher found that South Africa performed better than Nigeria in application of external loans to promote growth during the period of study. In case of Nigeria the external debt contributed positively to economic growth up to a point after which its contribution became negative.


Jayaraman et al. (2008)\textsuperscript{35} focused on the flow of foreign aid in 6 Pacific Island countries over the period of 1988-2004. These countries had been among the top recipients of foreign aid till early 80s, but later on could not maintain the level of higher aid inflows due to change in political situation thereby subsequently fell into the trap of twin deficits. While assessing whether the higher flow of foreign aid and external debt had ever contributed to economic growth in these countries, the study concluded a significantly positive relationship between external debt and real GDP; and an inverse relationship between higher fiscal deficit and GDP growth.


Mohan (2008)\textsuperscript{37}, the absolute historical journey of capital inflows in India can be branched into three phases. Phase 1: Independence (1947) to 1980s: External flows were restricted to bilateral and multilateral concessional finance. There was no


international capital outflow or inflow to India. Phase 2: 1980s to 1990s: The current account deficit was externally financed through commercial loans including short-term borrowings and NRI deposits. This resulted in a significant enlargement in India's external debt. Phase 3: 1991 onwards: This period is marked by the balance of payments crisis in 1991. It was realized that an unstable current account deficit, inappropriate exchange rate regime and rise in short-term debt were the causes of these crisis.

Nagesh kumar and Alka chandha (2009)\textsuperscript{38} analysed empirically India’s outward foreign direct investment in steel industry in a Chinese comparative perspective through Industrial and Corporate Change.

Reinhart and Rogoff (2009)\textsuperscript{39} provided evidence of a negative link between public debt and growth by examining economic growth at different levels of government debt in a sample of forty-four countries spanning about two hundred years.

Safia and Shabbir (2009)\textsuperscript{40} investigated the impact of external debt on economic growth in 24 developing countries from 1976 to 2003. The study applied random effect and fixed effect estimation. The results showed that debt servicing to GDP negatively affect the economic growth and may leave less funds available to finance private investment in these countries leading to a crowding out effect.

Singh (2009)\textsuperscript{41} analyzed the behavior of non-resident Indian (NRI) deposits by using the vector error correlation model.

\textsuperscript{38} Nagesh Kumar and Alka Chadha (2009). (Oxford)
(VECM) for the period 1993-2009 (monthly data). These were found to be unstable in nature as NRI deposits were statistically influenced by the determinants such as domestic real activity, exchange rate movements and interest rate differentials. Index of oil price was taken as the proxy for real activity in the host country. With reference to the volatility flows, he found high co-movement in net foreign institutional investments and stock returns. He used the Johansen's approach to the co-integration analysis which suggested an overall long run relationship between the above two variables. Also, Granger causality revealed a simultaneous interaction between portfolio flows and stock prices.

He also analyzed the determinants of private debt and equity flows for the time period ranging from 1950s till 2010. He intuited that corporates' decisions to borrow overseas is influenced by domestic real activity, interest rate differentials and finally by the credit constraints. A high correlation was found between ECBs and interest rate differential and a strong co-movement was also analyzed between commercial borrowings and the real activity. It was also shown that even though in the normal periods domestic demand shocks predominantly influenced the commercial borrowings, in the period of crisis, it was the credit shocks that influenced the ECBs.

Safia (2010)\textsuperscript{42} made an attempt to examine whether external debt stock and the external debt servicing leads to crowding out. By using OLS technique on dataset of 24 developing countries over the period 1976-2003 he found results.

of the study consistent with both the debt overhang theory and the liquidity constraint hypothesis. The researcher concluded that the external debt stock adversely affects economic growth, and higher level of external debt stock leads to crowding out. It is fundamentally expected that the marginal product of capital should be higher than the world interest rate for developing countries (Eaton, 1993). Since external debt helps to exploit the potentials of a country, the only guideline is that the rate of return on spending should exceed the marginal cost of borrowings. Taking this as basic assumption Savvides (1992) tried to measure the impact of debt overhang on the country’s economic performance. He used a Two Stage Limited Dependent Variable model (2SLDV) on cross section time series data of 43 Less Developing Countries (LDCs) encountering debt problem. The study concluded that debt overhang and decreasing foreign capital flows have significant negative impact on investment rates.

Arora et.al. (2010) have studied that there has been many such developments which have raised capital inflows in the country through ECB such as ECB in the aviation sector, allowing ECB funds for import of services, the permission by RBI to convert overseas borrowings into equity through external commercial borrowings and so on. Due to the collapse of Lehman Brothers during the global financial crisis, the financial sector was reluctant to lend and the rates reached soaring heights. At that point, RBI liberalized its policies further by expanding the list of borrowers and easing all-in cost ceilings (Arora et al, 2010)

Kumar and Woo (2010)\textsuperscript{44} studied the impact of high public debt on long-run economic growth for a panel of advanced and emerging economies over 1970-2007. Their empirical results suggest an inverse relationship between initial debt and subsequent growth: on average, a 10 percentage point increase in the initial debt-to-GDP ratio is associated with a slowdown in annual real per capita GDP growth of around 0.2 percentage points per year, with the impact being somewhat smaller in advanced economies.

Patil (2010)\textsuperscript{45} was critical of the measures/models adopted by our reformers. He asserted that India needs different sets of solutions. All those who talk of totally free markets do not recognize that we need broad-based industrialization and infrastructure development to tackle poverty in the country. Patil insisted that “any reforms that we intend to bring about should not be guided by the policy of reforms for their own sake but by the impact such reforms have on the rest of the economy and in particular the real sector”.

Rangarajan and Srivastava (2005)\textsuperscript{46} indicate that growth may be adversely impacted on account of large structural primary deficit and interest payments relative to GDP. The non-linearity in the impact of debt on growth has been examined in empirical studies based on various model specifications.

Goyal, Khundrakpam and Ray (2004)\textsuperscript{47} found that while the fiscal stance of the central and state governments at the

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individual level is unsustainable, it is weakly sustainable for the combined finances of centre and states. Some of these studies indicate that the stationarity-based sustainability tests are satisfied when structural or regime-based breaks in debt-GDP series are accounted for.

Singhal Aravid, (2011)\textsuperscript{48}, discussed that a contribution of 14 percent to the National GDP and employing 7 percent of the total workforce (only agriculture employs more) in the country, the retail industry is definitely one of the pillars of the Indian economy. Among those pioneering studies,

Verma and Prakash (2011)\textsuperscript{49} excogitated the effects of interest rate sensitivity on four components of capital flows using co-integration and causality analysis. The components chosen for this analysis were foreign direct investment (FDI), foreign institutional investments (FII) for the period 1998-2010, external commercial borrowings for the period 2000-2010 and non-resident Indians deposits. It was found that FDI was not interest rate sensitive as it is assumed to be long-term phenomenon in nature. Also, FIIs are not statistically significant to interest rate sensitivity. On the other hand, as the author expected, ECBs and NRI deposits are found to be statistically significant.

Tronzano (2012)\textsuperscript{50} found the existence of first order cointegration between revenue and expenditure flows but could not confirm the existence of a deeper long-run equilibrium between stock and flow fiscal variables and cautioned that an

\textsuperscript{48} Singhal Aravid (2011); The road ahead, Retailbiz
\textsuperscript{50} Tronzano, Marco. 2012. “Multicointegration and Fiscal Sustainability in India: Evidence from Standard and Regime Shifts Models”.

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adverse shock on the real economy may destabilise the debt pattern in India.

**STUDIES RELATED TO OTHER COUNTRIES**

Eaton and Gersowitz (1981)\(^5\) were among the first to look at this issue. The theoretical model and its corresponding empirical counterpart developed by authors in their paper are based on three foundations, e.g., the amount of a country’s debt is determined by its willingness to borrow and a credit ceiling; a rise in income variability (measured by the standard deviation of exports) boosts the demand for borrowing; and while a rise in the growth rate of GDP leads to higher demand for borrowing, it decreases or increases the credit ceiling depending on the degree of risk aversion.

Eichengreen and Portes (1986)\(^2\) using both annual cross-sectional and panel data for period 1930-38 of 16 to 23 countries indicated that while export instability and degree of openness are positively correlated with government external debt, they are not statistically significant. The only explanatory variable that was always significantly different from zero is the log of GDP per capita (LGDP). Shifting their approach to panel data, they indicated that all the variables except export variability turned out to be statistically significant.

Hajivassiliou (1987)\(^3\) using data for 79 developing countries for a period 1970-82, and considering the demand for and the supply of loans separately, found that the demand for

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borrowing is positively determined by total debt service to export ratio, growth of GDP per capita, import to GDP ratio, interest and principal to export ratios and negatively by real GDP per capita.

Krugman (1988)\textsuperscript{54} examined trade-offs facing creditors of a country whose debt is large enough that the country cannot attract voluntary new lending. The results of empirical models revealed that external debt can influence negatively the investment and consequently the economic growth through Debt Overhang (DO).

Cohen (1993) estimated an investment equation for a sample of 81 developing countries over three sub periods using OLS method. The author concluded that the level of debt does not explain the slowdown of investment in highly rescheduling developing countries.

Borensztein (1990)\textsuperscript{55} defined the debt overhang as a situation in which the debtor country benefits very little from the return to any additional investment because of the debt service obligations. The review of existing empirical studies of external debt and economic growth relationship indicated that it is inappropriate inadequate to make any generalization of the relationship between economic growth and external debt. Therefore, it is necessary to consider the case of each country or group separately.

Ajayi (1991)\textsuperscript{56} opined that size of the external debt relative to the size of the economy is enormous and besides leading to capital flight, also discourages private investments. A significant

number of countries in Sub-Saharan African (SSA) have in general adopted a development strategy which relies heavily on foreign financing, from both official and private sources. This, unfortunately, has meant that for many countries in the region, the shock of external debt has built-up over recent decades to a level that is viewed as unsustainable (Ajayi and Khan, 2000). The massive growth of external debt in SSA countries over the last two decades has given rise to the concerns about the deleterious effects of the debt on investment and growth, principally, the well-known “debt overhang effect”.

Warner (1992) made an attempt to measure the effect of debt crisis on investment using Ordinary Least Square estimation for 13 less developed countries covering the period 1982-1989. The results revealed that the reasons behind the decline of investment in many heavily indebted countries are declining export prices, high world interest rates and sluggish growth in developed countries.

Fry et al (1995) examine the Granger causality between capital flows (mainly, foreign direct investment) and current account balances with a sample of 46 developing countries. The paper produces diversified results with Granger-causality running from capital to current accounts in some and from current account to financial accounts in the others. There is also bidirectional Granger causality found in a few with no causation at all in some countries. Several earlier studies on the growth impact of FDI in India are in striking contrast to the currently

prevailing euphoria. Some observers doubt that economic reforms went far enough to change the character of FDI in India and, thus, resulted in types of FDI that may have more favorable growth effects. For example,

Milesi-Ferretti and Razin (1996, 1998 and 1999) suggest that major portion of current account deficits are being financed by the inflows along with a fall in reserve accumulation. Current account balance is defined as the difference between domestic savings and domestic investments (savings gap), hence, the current account relates to the financial account through savings and investment as mentioned in the above section. The disparity and unevenness between savings and domestic investment causes current account imbalances.

Fosu (1996) tested the relationship between economic growth and external debt in sub Saharan African countries over a period 1970-1986 using OLS method. The study examined the direct and indirect effect of debt hypothesis. The study revealed that GDP is negatively influenced via a diminishing marginal productivity of capital. The study also revealed that on the average a high indebted country faces about one percent reductions in GDP growth annually.

Mjema (1996) investigate the impact of foreign debt and debt servicing in the economy of Tanzania. He found that the impact of debt service on real growth in Tanzania is negative.

Ndung’u (1998)\textsuperscript{62} posits that the external debt problem in Africa has led to an investment pause and has reduced growth performance. Substantially, Audu (2004) found out that debt servicing has had significant adverse effect on the growth process in Nigeria.

Essien and Onwioduokit (1998)\textsuperscript{63} adopted the Zeller Reformulation Error (ZRE) in variable type model, with the conclusion that the high debt burden has been the root cause of Nigeria’s sluggish growth.

Oyejide (1985) in his study advocated the necessity of External Debt to bridge the gap between saving and investment. He asserted that rapid economic growth presumes that public investment may often be necessary at a rate well in excess of public savings. Hence it may become necessary for government to resort to borrowing to supplement public savings and thus fill the resource gap. Debt becomes a good finance option to facilitate economic development process.

Lyoha (1999)\textsuperscript{64} used simulation approach to investigate the impact of external debt on economic growth in sub-Saharan African countries estimating a small macro-econometric model for the period 1970-1994. He found an inverse relationship between debt overhang, crowding out and investment, thereby concluding that external debt depresses investment through both a “disincentive” effect and a “crowding out” effect, thus affecting economic growth.

Dabos and Juan-Ramon (2000)\textsuperscript{65}, establish relationship between real exchange rates and capital flows in Mexico for the period 1982 - 1998 along with other variables such as external terms of trade and productivity in manufacturing sector. They concluded that movements in real exchange rate in Mexico have consistently reacted to fluctuations in capital flows under different exchange rate arrangements. The analysis also revealed the structural break in 1995 with the adoption of the floating exchange rate that led to overvaluation in peso in real terms and post that period, the authors estimate that the appreciation in real exchange rates became more responsive to changes in capital flows in Mexico.

Stiglitz (2000)\textsuperscript{66} contributed that government borrowings can crowd-out Investment, which will reduce future output and wages. When output and wages are affected, the welfare of the citizens will be made vulnerable.

Tomori and Adebiyi (2000)\textsuperscript{67} demonstrated that the increases in government expenditure on debt service obligations tend to adversely affect development from the distribution perspective, as the poor are likely to receive the short and of the stick in expenditure reduction measures.

Were (2001)\textsuperscript{68} analyzed the debt overhang problem in Kenya and tried to find evidence for its impact on economic growth. Using time series data from 1970-1995, this study did not


find any adverse impact of debt servicing on economic growth; however, it confirmed some crowding-out effects on private investment.

Furthermore, employing data from 59 developing and 24 industrial countries over a period of 1970-2002.

Mody, Taylor and Kim (2001)\(^{69}\) to forecast capital flows. Level of industrial production was a major factor among other pull factors such as short-term domestic interest rate, consumer price index, short term debt to forex reserve ratio, level of domestic credit, credit rating and reserves to import ratio. Global or push factors included U.S. short-term and long-term interest rates, Emerging Markets Bond Index (EMBI), U.S. swap rate, U.S. output growth and risk aversion. The econometrics tool that was used was Vector Error Correction Framework using partial derivative and integrated approach. Under shock to global real factors like no growth in U.S. industrial production, flows to emerging markets dropped significantly without any sign of recovery.

Sebastian Edwards (2001)\(^{70}\) examined the relationship among exchange rate, capital flows and crisis for the decade of 1990 and drew conclusions from the lessons learnt during the Mexican, East Asian, Brazilian and Russian crisis. A higher interest rate in domestic countries attracted a large amount of capital and portfolio investments in the early 1990s in many developing countries, which helped in financing major part of current account deficits.

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Ying and Kim (2001)\textsuperscript{71} suggested them to use Structural VAR to investigate the macroeconomic factors of capital flows in Korea and Mexico for the period 1960 to 1996. They followed the push-pull approach and took foreign output and foreign interest rates as push factors and domestic productivity and domestic money supply as pull factors. They found that for both countries, foreign interest rate generated only a moderate negative effect on domestic output. The empirical results also suggested that capital flows are sensitive to business cycles for both countries.

Catherine et al. (2002)\textsuperscript{72} using large panel data of 93 countries for a period of 1968-1998 analyzed the impact of external debt on economic performance of countries. They observed that large debt service is expected to have negative effects on economic performance of a country because of the uncertainty regarding the portion of the debt that will be serviced with country's own resources. They further mentioned that the misallocation of investment lowers the efficiency of overall capital accumulation. The study finally concluded that high levels of debt and associated uncertainty might affect growth also via investment efficiency and productivity.

Fedderke, J.W. and W. Liu (2002)\textsuperscript{73} applied Auto Regressive Distributed Lag (ARDL) models to analyze the determinants of capital flows and capital flight in South Africa for the period from 1960 to 1995. They took interest rate differential as a proxy for rate of return and found that capital


\textsuperscript{72} Catherine Patillo, Hélène Poirson, & Luca Ricci, External Debt and Growth, IMF Working Paper 02/69,

flows were responsive to changes in interest differentials. They also determined that aggregate growth measures suggested long run determination of capital flows.

Karagol (2002)\textsuperscript{74} investigated the long-run and short run relationship between economic growth and external debt service for Turkey during the 1956-1996 by using Multivariate Co-integration techniques and employed a standard production function model. Here are many studies which explain the effect of external debt on economic growth .some studies found that there is negative impact of external debt on economic growth while some shows that there is positive impact of external debt on economic growth. Some studies are based on time series data where as some are based on panel data. Some studies used simple regression analysis where as some are used granger causality test and co-integration test for analysis purpose.

Karolyi (2002)\textsuperscript{75} have analysed that the increased credibility and reliable reputation of the Indian firms have facilitated greater access to international markets. It has been argued that firms that engage in borrowings from the international markets tend to obtain leverage debt maturity and better financing. These borrowings from the foreign institutions may have helped domestic firms to manage risk through more cultivated financial instruments. Due to risky and speculative nature of businesses, issue of IPO's (Initial Public Offering) have become uncertain and henceforth, it can serve as a reason for Indian corporates to turn to overseas borrowings.


Pattillo, Ricci and Poirson (2002)\textsuperscript{76} examined the nonlinear impact of external debt with the use of panel data analysis. The study is based on 93 countries over a period of 1969 to 1998 with econometrics analysis. The study found that average impact of debt become negative at about 167-170 percent of export of 35-40 percent of GDP.

Ricardo and Panizza (2002)\textsuperscript{77} tested the concept of Original Sin in a sample of 22 developing and developed countries for a period 1993-2001 and bond issues of international financial institutions by using correlation and reverse causality.

Eichengreen et al. (2003)\textsuperscript{78} in contrast also tested three issues namely, debt intolerance, currency mismatches and original sin by using OLS on various macroeconomic indicators taking a sample of selected advanced and developing economies for a period 1993-2001. They found that these terms are analytically distinct to each other. The creation of debt is a natural consequence of economic activity; however external debt management and sustainability is an important issue. A number of empirical studies conducted in the past shed some light on external debt sustainability.

Cuddington (1996)\textsuperscript{79} made an attempt to assess fiscal deficit sustainability in US and other industrial countries. Applying both the Accounting approach and the Present Value Constraint (PVC)

\textsuperscript{77} Ricardo Hausmann, and Ugo Panizza (2003), “The Mystery of Original Sin”, Kennedy School of Government, Harvard University, and Research Department Inter-American Development Bank
\textsuperscript{78} Eichengreen Barry, Ricardo Hausmann, Ugo Panizza (2003), “Currency Mismatches, Debt Intolerance and Original Sin”, NBER working paper/ w10036
approach he concluded that the situation of fiscal deficit in selected countries is under control.

Catherine et al. (2002) have analyzed the non-linear impact of external debt on economic growth taking large set of data for a period 1969-98 covering 93 developing countries. By applying econometric methodologies (GMM), regression specifications, and different debt indicators they observed marginal negative impact of debt on economic growth for about half of the values. These values indicated that high debt appears to reduce growth mainly by lowering the efficiency of investment rather than its volume.

Kalonji et al/ (2003) in an attempt to explore the relationship between external debt and poverty used General Method of Moments (GMM) on 67 low income countries during period 1985-1999. He found that external indebtedness indicators have a limited but important impact on economy.

Oleksandr (2003) divided the existing literature on the related topic into three groups. A first group of theories suggest that because poor countries are far away from steady state any investment injection in the form of foreign debt could lead them to have accelerated economic growth through capital accumulation and productivity growth (Pattillo et al, 2004). Therefore foreign debt has a positive impact on growth up to certain threshold level. Second group of theories, stress that high accumulated debt stock have negative impact on growth. A

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leading explanation for this negative relationship is the so called debt overhang hypothesis of Krugman (1988), and Sach (1989), then advocated by Cohen (1993). Third group of theories combines these two effects and argued that the impact of debt on growth is nonlinear. The relationship between foreign debt and economic growth has mainly focused on the negative effect of “debt overhang”. Krugman (1988), defined the debt overhang as a situation in which the expected repayment on foreign debt falls short of the contractual value of the debt.

Soludo (2003)\(^83\) opined that countries borrow for two broad categories macroeconomic reasons (higher investment, higher consumption, education and health) or to finance transitory balanced of payments deficits (to lower nominal interest rate abroad, lack of domestic long-term creditor, or to circumvent hard budget constraints). This implies that economy indulges in debt to boost economic growth and reduce poverty.

Uzochukwus (2003)\(^84\) investigated the quantitative effects of public debt (domestic and external) and economic growth on poverty in Nigeria by applying the per-capita income approach using annual data of 1970 to 2002.

Adam (2004)\(^85\) posits that many LDCs large debt accumulations resulted to debt overhang. The debt overhang discourages investments and affects future output negatively. Again, the experience of Sub-Saharan African countries conformed to the general picture of most LDCs. It is well known

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that one of the causes of low growth and economic difficulties of SSA countries is the large debt service payments (Adam, 2004). The SSA countries are thus susceptible to large foreign loans not only for the savings gap, but also the foreign exchange gap is widened because of the decline in export.

Menbere (2004)\textsuperscript{86} in his study using panel data approach separately for 21 Highly Indebted Poor Countries (HIPC's) and Least Developed Countries (LDC's) found that poverty (the savings gap), income instability, and external factors such as debt service payments and capital flight were main causes of overseas borrowing by developing countries during 1980s and 1990s. Thus, various researchers have contrasted what evokes a country to take option for external debt. In recent years some researchers have been working on the balance sheet approach which emphasis on the disturbances on assets, liabilities and net worth of the federal government. These researchers highlighted the determinants of CAD (current account deficit), and the problems associated with external debt, namely, currency mismatches, debt intolerance, and original sin. The external debt in foreign currency results into excessive foreign borrowings, debt service problems, and increased vulnerability during crises. Further, when country’s external debt is denominated in foreign currency, the real exchange rate depreciates, the purchasing power of domestic output reduces over foreign claims, and it makes more difficult for a country to service its debt.

Schclarek (2004)\textsuperscript{87} could not find any evidence that external

\textsuperscript{86} Menbere Workie Tiruneh (2004), “An Empirical Investigation into the Determinants of External Indebtedness” Prague economic papers

debt may affect total factor productivity. However, he found that in case of developing countries higher growth rate is associated with a relatively lower external debt levels and this negative relationship is mainly driven by public external debt rather than private external debt. While, in case of industrial countries, he could not find any evidence for the existence of such relationship between public external debt and economic growth. Similarly, to investigate the impact of external indebtedness on economic growth for Sudan,

Arnone (2005)\textsuperscript{88} in his paper also found that large debt stocks lead to capital flight, high tax rates and continuous over-borrowing with a negative effect on growth. Imed and Sami (2005) investigated the non-linear effect of external debt on economic growth. They analyzed the effect of public external debt on production efficiency for a period 1970-2005 in 27 developing countries using a stochastic frontier technique with unobserved heterogeneity.

Schclarek et al. (2005)\textsuperscript{89} and Lawrence and Michael (2012), analyzed the inverse effect of external debt on economic growth on various developing countries particularly Nigeria, Iran, Turkey and Latin American countries by applying OLS, and GMM Panel Estimator.

Adepoju et al. (2007)\textsuperscript{90} analyzed the time series data for Nigeria over a period from 1962 to 2006. Exploring time to time

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behavior of donor agencies as an outcome of various bilateral and multilateral arrangements, they concluded that accumulation of external debt hampered economic growth in Nigeria.

Patenio and Tan-Curz (2007)\textsuperscript{91}, studied the relationship between external debt servicing payments and economic growth in Philippine for period 1981 to 2005. Results showed that economic growth was not very much affected by external debt servicing. This was probably because external debt servicing in Philippines was not yet a threat in economic growth and thus, Philippines should not fear of experiencing debt overhang in the near future.

Abu Baker and Hassan (2008)\textsuperscript{92}, focused to analyze the impact of external debt on economic growth in Malaysia. The analysis was conducted both at aggregate and disaggregate level. The empirical results indicated that total external debt positively affect the economic growth at aggregate and disaggregate level. In the short run, total external debt had positive effects on economic growth. It also revealed that Malaysia had not suffered from debt overhang problem.

Bohn (2008)\textsuperscript{93} argued that the failure of stationarity and co-integration could not be interpreted as evidence of unsustainable fiscal policy. The time series tests are backward looking and do not fully exploit the implications of uncertainty in deriving appropriate tests of fiscal sustainability. He suggests that the


positive response of primary balance relative to GDP to public
debt relative to GDP of a country be considered as an indicator of
dynamic sustainability. Using this framework and Fincke and
Greiner’s model of time-varying coefficients for testing public
debt sustainability.

Cholifihani (2008)\(^94\), analyzed the short run and long run
relationship between external debt and income in Indonesia from
1980 to 2005. The findings showed that GDP, DSR, capital stock,
labour force and human capital inputs have a long run
equilibrium relationship. External debt servicing showed a
significant negative relationship with GDP, which indicated that
debt overhang phenomenon, has occurred in Indonesia in the long
run. While labour force and human capital was main supporting
variables of GDP in the long run; however capital stock is
significant variable in boosting economic growth.

Hasan and Butt (2008)\(^95\) explored the association between
external debt and economic growth in Pakistan for the period of
1975-2005 using Auto Regressive Distributed Lag (ARDL)
approach to cointegration. Results indicated that labor force and
trade both in the long run and the short run mainly determined
economic growth in Pakistan. Total debt was not to be an
important determinant of economic growth either in the short-run
or the long run mainly due to inefficient use of external debt.

Maana et al (2008)\(^96\) analyzed the economic impact of
domestic debt on Kenya's economy by applying ordinary least

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square technique and modified Barro growth regression model through annual data over the period 1996 to 2007.

Adofu and Abula (2009) investigated the effects of rising domestic debt on the Nigerian economy, by applying OLS technique, using time series data from 1986-2005. The analysis showed that domestic debt had negatively affected the growth of the economy. The study recommends that government should made efforts to resolve the problem of outstanding domestic debt.

Butts (2009), examine the causal relationship between short term external debt and economic growth. The study is based on 27 Latin American and Caribbean countries over period of 1970 to 2003. The study concludes that there is evidence of granger causality in all these countries.

Daud (2009) in his thesis analyzed the sustainability of current account and fiscal position of high, middle, low income countries using unit root test. The results of the study revealed that only high income countries are in sustainable current account position and the remaining countries have unsustainable position of current account. External debt allows a country to invest and consume beyond the limits of current domestic production and in effect, finance capital formation not only by mobilizing domestic savings but also by tapping savings from capital surplus countries. There are different views regarding the expected relationship between external debt and economic growth.

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W.A Adesola (2009) examined the effect of external debt service payments on the economic growth in Nigeria by using ordinary least square multiple regression method for his analysis. It was found out that debt service payments have negative impact on economic growth.

Buiter and Patel (2010) discussed the standard solvency constraints viz., (i) the present discounted value of the terminal government nonmonetary debt be non-positive and (ii) the outstanding value of the government’s non-monetary debt cannot exceed the present discounted value of its future primary surpluses. In terms of the first constraint, the growth rate of public debt cannot be greater than the effective interest rate on the public debt.

Checherita and Rother (2010) determined the average impact of government debt on per capita GDP growth for twelve euro area countries over a period of about 40 years from 1970-2009. The study showed non-linear negative impact of government debt on economic growth.

Reinhart and Rogoff (2010) show that growth rates in both developed and developing countries with the public debt to GDP ratio higher than 90 per cent are about 1 percentage point

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lower than in the less indebted countries. Growth in emerging markets (EMs) slows down by an annual two percentage points when their external debt reaches 60 per cent of GDP and the decline is even sharper for external debt levels in excess of 90 per cent of GDP. Other empirical studies also establish that public debt beyond a certain threshold is negatively correlated with economic growth (Egert, 2012; Elmeskov & Sutherland, 2012; Greenidge et al., 2012; Kumar & Woo, 2012; Cecchetti et al., 2011; Checherita & Rother, 2010; Baum et al., 2012; Cordella et al., 2005). The negative effect of debt on growth is attributed, among others, to both the crowding out effect and the debt overhang effect. However, the direction of causality has not been unambiguously established.

Sheikh et al. (2010)\textsuperscript{104} studied the impact of domestic debt on economic growth and also observed the impact of domestic debt servicing on economic growth in Pakistan by applying the OLS technique for the period of 1972 to 2009. The study indicated that the negative impact of domestic debt servicing on economic growth is stronger than positive impact of domestic debt on economic growth.

Combes et al. (2011)\textsuperscript{105} analysed the impact of real exchange rate on different forms of private flows such as foreign direct investment, portfolio investments, bank loans and private transfers. A sample of 42 developing countries was used for the period 1980-2006 and pooled mean group estimator was applied that allowed short-run heterogeneity while imposing long-run


homogeneity on exchange rate (real) across different countries.

Lengrenzi and Milas (2011)\textsuperscript{106} work, the PVBC requires that the present value of outlays (current and future) equals the present value of revenues (current and future). The transversality condition under the PVBC constrains the debt to grow at a slower rate than the interest rate.

Elmeskov and Sutherland (2012)\textsuperscript{107} admit that high debt levels have a negative impact on growth but they argue that correlation is not the same as causation. While high levels of public debt could be detrimental to growth, low economic growth could itself lead to high levels of public debt i.e., reverse causality.

Kumar and Woo (2012)\textsuperscript{108} study the impact of public debt on growth along with other determinants of growth in a general growth framework. The statistical techniques used in empirical exercises include OLS, quadratic, spline and panel regressions, besides using exogenously/endogenously determined threshold debt levels and calculating debt thresholds based on credit ratings of major rating agencies. The threshold level of debt varies for different regions/ country groups as also across countries. The determination of public debt thresholds, based on the concept of sustainable public debt level, has primarily been guided by necessary and sufficient conditions of debt sustainability as defined in the theoretical literature. In the pioneering work on


debt sustainability,

Guerin (2012)\textsuperscript{109} discussed that the relationship between net private capital inflows and current account in nineteen developing and industrial countries each with the assistance of co-integration and causality tests. The authors conclude that the net inflows and current account balances have a long run steady state relationship. The results of causality between capital inflows and current account vary. The authors observed that inflows do not cause current account in industrial countries maybe because of the reason that the industrial economies have liberalized financial accounts.

CONCLUSION

Most of these studies have used real GDP and GDP growth rate as dependent variables and tried to explore the direct impact of external debt and debt servicing on GDP growth rate. Only a few studies focused on assessing the impact of external debt on per capita GDP, long term consumption pattern, and capital formation. Since the findings of these studies are mixed, it is hard to say whether external debt has positive, negative or any significant impact on economic growth.

After reviewing the above literature, it can be established that sufficient literature is available on causes, effects, and management of external debt, most of them are confined to individual and/or developed economies. A very few researchers have attempted to describe the issue in reference to developing and emerging market economies. Among these, most of the researchers have same fundamental arguments; they deviate with

\textsuperscript{109} Guerin, S. (2012). The relationship between capital flows and current account: volatility and causality. \textit{Available at SSRN 2018195}
respect to the choice of covariates that determine the demand for external loans and their methodological approaches. Therefore, there is a large scope of studying the different aspects related with the External Debt and Economic Growth. The present study has attempted to investigate the Structure of External Debt in India since 1980. An effort has been made to analyze different components of External Debt, the structural makeup of these components, their inter-relationships and the relationship of these components with the Growth of the Economy.