EXTERNAL DEBT EXPERIENCE OF THE INDIAN ECONOMY: A STUDY OF ITS GROWTH, CAUSES, IMPACT, AND SUSTAINABILITY.

A Thesis submitted to the University of Hyderabad
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BY

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DECLARATION

I hereby declare that the research embodied in the present thesis entitled **'External Debt Experience of the Indian Economy: A Study of its Growth, Causes, Impact and Sustainability'**, submitted by me under the guidance and supervision of **Dr. N A Khan,** School of Economics, University of Hyderabad, is a bonafide research work which is also free from plagiarism. I also declare that it has not been submitted previously in part or in full to this University or any other University or Institution for the award of any degree or diploma. I hereby agree that my thesis can be deposited in Shodhganga / INFLIBNET.

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A. Published in the following publications:

- "A Granger Causality Analysis Between External Debt and the Deficits: Evidence from the Indian Economy" ATSK Journal of Economics, Vol. 1. Issue 1, October 2021.

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Further, the student has passed the following coursework requirement for Ph.D. / was exempted from doing coursework (recommended by Doctoral Committee) on the basis of the following course passed during his M.Phil. Program and the M.Phil. degree was awarded:

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DEDICATED

TO MY MOTHER,

SYAMALA BOSE,

AND

AAYAN MANAV,

TO WHOM I AM A

MOTHER.

CHAPTER 1
INTRODUCTION.

"Free from public debt, at peace with all the world, and with no complicated interests to consult in our intercourse with foreign powers, the present may be hailed as the epoch in our history the most favourable for the settlement of those principles in our domestic policy which shall be best calculated to give stability to our Republic and secure the blessings of freedom to our citizens."

-Andrew Jackson

1.1 Background and Motivation for Research.

Capital is a vital resource for economic growth and advancement. Most of the developing nations are under deprivation of development needs and basic necessities. They lack the money and other vital factors for stable economic growth. Poverty is mirrored by reduced per capita income in certain nations, producing a vicious cycle. The vicious cycle of poverty is a phenomenon typified by low real national income, low savings, and inadequate investment, all of which contribute to a capital deficit or shortfall. This vicious cycle is also to blame for the economy's lower pace of capital creation. Because they are not able to invest sufficiently in capital goods, developing nations are characterised as low-investing countries. Foreign trade constraints also impact these nations, since they largely export primary products and import capital goods as well as consumer goods. Apart from that, these nations have a huge population, who are highly dependent on agriculture, are technologically lagging behind, have substantial unemployment, have poor institutional frameworks, and so on. As a consequence, a country's capital creation needs a boost with a wide range of resources on which it may depend for faster economic growth.

A country can take advantage of public savings, increase taxes, stimulate investment, or borrow domestically. But there are drawbacks to each of these methods, such as the fact that public savings in less developed countries are often limited, that tax increases can have an impact on a country's production or output, that government-induced investment and deficit financing can raise inflation if they are not addressed properly, and that internal debt must be available for use. When domestic resources are not enough to fulfil the capital demands, a country has the option to look for foreign funding. External sources of funding include both debt creating and non-debt-creating flows .

External debt refers to the borrowings by one country from international financial institutions, financial markets, and foreign governments. External debt helps a country to complement domestic savings and balance of payment deficits. Developing nations have a savings and investment gap as a consequence of their low incomes and savings rates. They also suffer foreign currency constraints due to their dependency of export on primary goods and import of capital and consumer goods resulting into Current Account Deficit (CAD). In this circumstance, External dent arises as a panacea to meet development needs and to stimulate the economy to meet the saving and investment gap.
In addition to helping a nation bridge the savings and investment aperture at home, economists have underlined the dual function played by foreign debt in the country's capacity to bridge the import-export gap also. According to the dual gap approach, international borrowing and domestic savings operate jointly to bridge the investment and saving gap. It also indicates that foreign borrowings function as a complement to import export imbalance. It is evident that External Debt have a dual identity in enhancing the domestic resources as well as foreign exchange reserve. External debt is often favoured by countries suffering from domestic and external deficits. But, some governments also opt for foreign borrowings to deal with the issues linked with interest rates and currency rates.

External debt is a significant tool in the process of economic development, nonetheless, borrowing over a level of external debt may produce challenges in the long run. For a nation, capable of paying its debt (principal and interest) is regarded productive, but, when a country finds trouble in servicing its obligation, its borrowings are recognised as unproductive. As a consequence, robust debt management measures are crucial for keeping the national debt under control and manageable. Pattillo et al. (2002) claimed that growing debt levels impair the efficiency of investment utilizing the borrowed funds for productive purposes may have a positive effect on economic development. Debt service expenses shoot up when borrowed money is utilised for non-productive ends, which puts a brake on economic progress because of rising interest payments and greater repayment duties. Some economists (Hausmann and Panizza (2003) explored external debt developments in regard to interest rates and exchange rates via Original Sin Hypothesis. They pointed to the original sin as difficulty of one country to borrow in its own local currency in the long-term. Thus, internationalisation of a country’s debt in foreign exchange reflects the dilemma of original sin.

The unsustainable foreign debt may produce debt overhang issue. The debt overhang issue may be interpreted as excessive borrowings resulting to increasing debt payment needs. The increasing (ED) service crowds-out finance or modifies the mix of state expenditure. It's the case whenever a

country's foreign currency earnings are used toward paying off its debt. To cope with challenges linked with excessive borrowings, a government requires a competent external debt management system. Tuffour (2012), Megersa (2014) and Tatu (2014) explored the challenges linked to excessive load of foreign debt and management thereof. The ED management is an essential component of “balance-of-payments and macroeconomic management”as debt needs, borrowing capacity, and debt servicing capacities are all directly influenced by macroeconomic factors such as aggregate demand, aggregate production, price levels, exchange rates, and so on. (Ministry of finance,2019). When these challenges persist in the long term, the scenario may generate debt crises in an economy.

The issue of debt crises is usually connected with lower developed nations (LDCs) since they often have problems in debt payment. During the nineteen seventies and eighties many LDCs were at the verge of default particularly because of various international events like collapse of Bretton Woods System, Oil shocks, Iraq-Kuwait War, Mexican crises, Asian crises, Euro zone debt crises etc.which included oil shocks, cumulative fiscal deficits, spillover effect to current account deficits, rising interest rates and bad macroeconomic management. Most recently, the Corona pandemic crisis (from 2019) prompted by massive recession, high fiscal deficits, housing bubbles and financial crises made the nations to broke out under the crises. . Though, the reasons of a crisis varies from nation to country, the financial contagion is the Prime factor which united entire countries. To stabilise the economic situation in these nations external debt emerged as a unique elixir.

If we look at the status of developing nations, the foreign debt in these countries over the period 2005 – 2020, they displayed a growing tendency. In the recent decade too, the foreign debt of emerging nations registered an aggregate growth of 53 percent. This is primarily due to the volume of private sector foreign debt with such a short maturity period.The long-term foreign debt of these nations climbed by 46 percent while short term debt registered a rise of 67 percent over this time. The rising size of foreign debt among emerging nations should not be misconstrued as it may lead to debt trap. Rather it should be seen as a source of money and its viability fully dependent on development of exports and income of developing nations. Various debt indices, such asED to GNI, ED to Exports, Short Term Debt, Debt Service to Exports, to ED and Forex Reserves to ED depicted a consistent improvement in the indebtedness position of emerging nations

1.2 The Scenario of External Debt : An Analysis.

External debt (ED), also known as Foreign Debt (FD) arises mostly because there is a lot of short-term foreign debt held by the private sector. The quantity of a country's total debt that must be paid to international creditors. Creditors may be anyone, including governments, businesses, or even individuals. Bank debt from international bodies, foreign private commercial banks, or international financial organisations like the IMF and the World Bank (WB) is usually included in ED.

1.2.1 Definition of the term "External Debt."

The International Monetary Fund (IMF) defines ED as follows: "At any given time, the outstanding amount of those actual current, and not contingent, liabilities that require payment(s) of principle and/or interest by the debtor at some point(s) in the future and that are owned by nonresidents by residents of an economy is known as gross external debt."

The major features of this concept are as follows;

A. *Current obligations that are outstanding and actual*: The key factor in determining whether a claim belongs to a creditor or a debtor is the ownership of the claim. Interest and principal arrears are included in the debt obligations in this category.

B. *Principal and Interest:*When these fees are paid, on a monthly basis, as is often the case, it is referred to as an interest payment. Unless otherwise specified, principal payments are money that a debtor sends to a creditor to reduce the amount of principal that is still owed. The concept of external debt, on the other hand, makes no distinction between whether the payments that are due are for principle, interest, or a combination of the two. Furthermore, the definition does not stipulate that a responsibility must be classified as a debt if the schedule for future payments of principle and interest is mentioned; certain criteria must be met for the obligation to be considered a debt.

C. *Residence* :The ED obligations must be held by a resident and owed to a non-resident in order for them to be considered external debt. The location of the debtor's and creditor's centres of economic interest is used to identify the location of the residence. They are normally situated in this area and not according to their nationality.

D. *Current and non-Contingent* External debt does not include contingent obligations, meaning that the term does not cover ED. The term "contigent transactions" refers to arrangements in which one or more criteria must be met before a financial transaction may be completed. In terms of comprehending vulnerability, the term does not cover, but more and more people

are starting to think about how contingent liabilities might affect economies and certain institutional sectors, as an example, the government, as well as the financial markets.

1.2.2 Internal vs. External Debt

- Internal debt is a term used to describe public loans that are raised inside a nation. The borrowing of public funds from foreign nations is referred to as external debt. When a nation borrows money from other countries and needs to return the money when the loan is due, this is referred to as external debt. An external debt is a claim against the country's actual income (GNP). The country's external public debt allows it to import real resources and also allows it to spend more than it generates. The following are the differences between internal and external debt:
- The nature of an internal loan may be either voluntary or involuntary, while the nature of an external loan is often optional. Only in the event of a colony is it possible to raise an external debt by coercion.
- An internal loan is controlled and can be predicted with certainty before it is made, but external loans are always unpredictable and cannot be predicted with such certainty. The loan's realisation is heavily influenced by the internal politics and external policies of the government that is providing the money.

The issue of internal loans is always in terms of the local currency, while the terms of external loans are always in terms of the foreign currency.When loans are obtained in foreign currencies, one of the most significant characteristics of external debt is that the borrowing country's foreign currency resources are often increased, as is the case when loans are received in local currencies. As a result of loan repayment, which includes debt service expenses, the country's foreign currency reserves are reduced to a significant amount. External loans, on the other hand, are often repayable in the home currency of the borrowing nation, so reducing the strain on the country's foreign exchange reserves.

External debt results in a transfer of wealth from one country to another, known as a transfer of wealth. When a nation repays a foreign loan or pays interest on such a loan, it may send money home to the country that borrowed the money.Money from the nation with the ED is transferred to the country with the loan when principal and interest are paid. Because the debtor government must curb its expenditure in the future or decrease private spending by raising taxes in order to fund the

interest and repayment of the principal of the foreign loan, the debtor government must reduce the use of domestic resources. A net reduction in the amount of resources available for consumption in the debtor country is thus unavoidable when a country incurs an external debt.

1.2.3 Significance of External Debt

The quantity of actual financial resources that a nation is able to mobilise determines the level of development of that country. The capacity of underdeveloped nations to mobilise such vast resources is constrained by the fact that their manufacturing base is small in comparison to their demand. After satisfying its consumption needs, it may be left with only a limited number of resources that may be used to enhance development activities in the long run . In this juncture, It may be necessary to seek assistance from the external sector thus external debt may therefore augment domestic resources and, which signifies, raise the volume of development effort.

The use of external debt plays a critical function in enveloping the three types of gaps in a developing nation's economic development, as follows.

Saving gap

Only an increase in the pace of capital creation can solve all concerns related to economic development . Such an increase would need a significantly greater level of investment than justified by the amount of savings in the developing world. The low level of income restricts the potential for a significant increase in domestic savings, a moderate pace of development, and an increase in consumption requirements in the economies. The difference between the amount of investment required and the amount of domestic saving may be bridged by borrowing from external economies.

Foreign exchange Gap

In every underdeveloped economy, the absence of minimum inputs to maintain a certain rate of growth in GNP, as well as a real or projected limit on export earnings that is adequate to fund the needed imports, is a constant source of frustration. If a country has access to external resources, it may avoid falling into a state of deadlock that it could otherwise find itself in and put high-quality elements at her disposal, such as upgraded equipment, technological know-how, and skilled personnel.This has the potential to have a beneficial effect on progress by "fertilising the productivity of common labour," as Harrod described it.

Technological and ManagementGap.

Underdeveloped nations do not have access to cutting-edge technological advancements. These developing countries may benefit from technological advances made by industrialised countries, allowing them to increase their resource use and efficiency. In certain cases, foreign debt may provide

a bundle of resources that can be passed to their local counterparts via training programmes and the process of "learning by doing."

To summarise, foreign assistance has a significant impact on three sensitive areas that are critical in the development plan of a developing nation.And raising money overseas rather than at home may be more cost-effective in certain cases, particularly when there is a low level of local demand for sovereign debt.

1.2.4 Disadvantages of External Debt

Taking out a loan in a foreign currency has a plethora of risks. Short-term foreign currency obligations have contributed to deeper, more infectious, and generally more challenging crises in the borrowing nation (Jeanne, 2000). Financial crises become self-fulfilling because of foreign currency debt, according to Krugman (1999).When a government needs to pay back investors in a currency that it doesn't control, it has a major problem with foreign currency debt. Because of this, a nation that has obligations denominated in a foreign currency is much more vulnerable to global financial forces over which it has no influence. If the nation issuing the loan has an interest rate or exchange rate regime that is unfavourable to the borrower, this might make it more difficult for the borrower to pay back the debt. In the case of a currency devaluation, nations with less foreign currency assets may find it more difficult to repay their foreign currency loans than countries with more foreign currency assets. The currency depreciation in emergent market economies, particularly those having flexible exchange rates, is frequently triggered by unexpected halt in capital inflows, unfavourable terms of trade or lax monetary policy (Bordo and Meissner, 2006).

Arising countries typically fix their currency exchange rates to those of more established economies, like the USA, for this reason "fear of floating" phenomena (Calvo and Reinhart, 1999). In the event of a free-floating and depreciating exchange rate, the resulting currency disparity would inevitably cause financial collapse. These combinational results making it more difficult to pay off foreign debt, increasing the probability of default, diminishing auxiliary financing, and possibly precipitating economic crumble. This, on the other hand, increases the motivation for investors to use hedges. Investors' increased willingness and ability to hedge their currency exposure means that big swings in the exchange rate are less likely to trigger financial crises (Eichengreen and Hausmann, 1999).Therefore, a country with a floating currency rate is highly sensitive to global shocks. An increment in the number of countries affected by sovereign debt default or crisis is a result of globalisation.

In 2001, Argentina defaulted on $81 billion, illustrating both the foreign and local effects of default. Three years of devastating credit crunch, the huge budget deficit, rising prices, rising interest rates, and significant drop in outside investment all had a role in the insolvency. According to The Economist, the GDP fell by 10.9 percent. A total of $144.5 billion in sovereign debt equal to 53 percent of Argentina's GDP at the time of the announcement of its default by the government (Shapiro and Pham, 2006). There were defaults on more than 150 bonds in seven different currencies and eight different nations. A total of (33%) was in euros, while(53%) of the debt was in US dollars. There were $83.6 billion in direct costs for investors worldwide, including capital losses, interest payments that were never paid, and delayed investment returns. There has been a devaluation of the peso relative to the US $, the Euros, and other global currencies resulted in a decrease in the value of investors' assets in Argentina. As a direct consequence, Argentine bondholders lost $83.6 billion in tax revenue to their governments. Finally, the default necessitated the creation by the IMF of a significant rescue package. Taxpayers throughout the globe contributed $23.2 billion to this package. Other international parties will suffer as well as the borrower sovereign in the event that the foreign currency loan defaults.

Original sin is essential to any consideration of emerging market countries' foreign currency debt. Currency mismatch and maturity mismatch are highlighted in the example of the original sin. Eichengreen (2001) defines original sin as the inability of the national currency to be utilised for borrowing overseas or for long-term borrowing, even inside the country. Mexico, Uruguay, and Colombia are some of the most well-known nations in Latin America that have suffered as a result of human sin. Because initiatives that earn pesos or francs will be funded with dollars, there will be a difference in value of two currencies. As a result of funding long-term projects with short-term investments, a maturity mismatch develops. Both fixed and fluctuating currency rates pose severe issues when original sin prevails. Bankruptcies and foreign currency debt defaults might occur if the exchange rate were to fluctuate. Defending a stable exchange rate by selling reserves and raising interest rates leads to domestic debt defaults (Eichengreen and Hausmann, 1999). For nations with more original sin, there is more exchange rate volatility and greater macroeconomic volatility than for countries with less original sin, according to Eichengreen and Hausmann (2005). Dollarization (or its counterpart in the euro) is the sole answer since revenue flows are in the same currency as obligations.

Dollarization may be a temporary remedy to original sin while the sovereign rebuilds its confidence in Uruguay, but the success of dollarization in Panama shows how successful it can be over the long run. in Uruguay, Since 1904, Panama has maintained a policy of dollarization. Low inflation in Latin America, complete integration into the US monetary system, robust economic growth and reliable access to foreign capital markets are all advantages to following this course of action. Sovereigns may cleanse themselves of the stain of sin by living morally upright lives. Economic reforms such as dollarization, better political stability and a deep-liquid financial system may be necessary to restore international confidence in the home currency so that the sovereign may borrow both domestically and internationally with it.

1.2.5 Factors Contributing to Global Borrowing

The foreign debt problem of developing nations has its origin in the 1970s and 1980s and was conveyed to them by the rich countries during that time period. The least developed nations are not making effective use of external borrowing in a planned way, according to the World Bank. There are a variety of causes contributing to the increase of foreign debt. Some of the internal and external influences are mentioned as follows:

1. External factors.

External factors are those exogenous factors that affect a countries external debt over which a country may not have any control. It happens outside the realm of the economy but its impact is severe and unavoidable. Those factors are as discussed as follows:

a) Transfer Problem

In international commerce, the movement of capital from one country to another is a regular process. This stage is characterised by the abundance of oil revenues in oil-exporting countries and the need for foreign exchange in oil-importing nations, as well as the reuse of foreign-exchange surpluses from the former to cover the deficit of the latter occurred within the parameters of relative normalcy in the second stage. Borrowing money from overseas became quick and simple, and the issue of foreign debt began to emerge.

b) Oil Shocks

Following the surge in the price of oil in the 1970s, current account deficits in the oil-importing nations were instantly created, while parallel surpluses were created in the oil-exporting countries. Oil price hikes in 1973 were multiplied by a factor of three due to actions taken by “The Organisation of the Petroleum Exporting Countries” (OPEC). This second oil

shock generated significant distortions in the world economy, particularly for oil-importing developing nations, and has led to a substantial increase in the price of petroleum have had a significant impact on consumer budgets. The entire amount of import expenses increased. In other instances, external debt also increased significantly.

c) Wars

The First and Second World Wars had a significant impact on emerging nations and served as a pressurising element in the growth of foreign debt in many countries. Borrowing is used for almost all of the costs associated with the ongoing wars. This borrowing led to an increase in the federal deficit and the national debt. It also had other effects on the economy as a whole, such as making consumer interest rates go up.

Spending on war may have a negative effect on the economy by reducing other potential uses of the money. While it's true that spending money on the military boosts the economy, there may be better places to put your money, like the healthcare sector. Additionally, public infrastructure that is not military-related, such as education and infrastructure, has not grown at the same rate as military infrastructure. Finally, the cost of wars to state, municipal, and private budgets has totaled billions of dollars. These costs include aid to returning troops and their families as well as local homeland security measures.

d) Inflation

on global scale Inflation rates were greater and more persistent in the 1970s than they had been since the 1950s, resulting in a global inflationary environment. With greater levels of interest rates and growing costs of industrial products, the world economy was subjected to strong inflationary pressures, which were reflected quickly both in the value of oil-derived both in the quality of the goods and the cost of items into which oil is a component. As a consequence, the value of imported goods increased in value. Additionally, the Financial Markets were affected by the event. Interest rates rose sharply which means of worldwide inflation, price hikes of repaying international debt dramatically.

e) Variable Interest Rates

By 1984, variable interest rates were applied to more than one-third of the foreign debt of non-oil developing nations, compared to less than one-tenth in 1972 and less than one-tenth in 1972. These rates were rising at an alarming pace for reasons that had nothing to do with the economic situation of the nation in which the debt was incurred.

f) Exports deficiency

Another issue is the decrease in exports from emerging nations. This can lead to current account balance looks obscure. But when a country spends more overseas than it receives, the current account is where international economics meets political reality. When nations run big deficits, companies, trade unions, and politicians typically accuse trading partners of unfair tactics. The dispute between the US and China about who is to blame for the trade imbalance has heightened concerns about the wider implications for the global financial network.

g)The Current State of International Lending

The increase in private lending and the decline in state aid have both contributed significantly to the issue of expensive loans and, therefore, the debt crisis. The readiness of commercial banks to offer money without checking the quality of economic management in the borrowing nations or the quality of the projects funded was also a contributing factor to the increase in foreign debt.

h)Developmental Policies in Developing Countries

Inappropriate macroeconomic policies implemented by emerging nations contributed to the shortfall of current account. The trend of current account deficits in emerging nations throughout the 1970s demonstrates the ineffective control of the currency rate. Inconsistencies in macroeconomic policy resulted in a loss of public trust in the government.

i)Commercial Banks Engaging in Excessive Lending Activities

Not only were governments engaging in risky borrowing practises, but banks were also engaged in risky lending practises. According to reports, the margin above LIBOR (London Interbank Offered Rate) was as low as 50 to 100 basis points on a regular basis in the past.When it came to financing, there was little respect for the quality of economic management in the nations that were borrowing money.One of the other factors was the recycling of petrodollars by commercial banks, as well as the retrenchment of commercial banks.

j) The Inaccurate Prediction of the Risks

Two of the most significant reasons for the wrong appraisal of risk were that both creditors and debtors were afflicted with catastrophe myopia, as well as a lack of proper analysis and information.

In certain cases, developing nations may have borrowed on unfavourable conditions; for example, some of them may have acquired an excessive amount of short-term debt, debt at

higher interest rates, or debt with an unfavourable maturity profile, leading to a "hump" in repayments coming due. Over borrowing is becoming yet another contributing factor to high levels of debt.

k) Industrialised Economies

In 1985, the rate of growth in industrialised nations was significantly lowered. In addition, commercial bank lending has come to a stalemate. Then, as a result of the global economic downturn, nations with moderate levels of debt were more susceptible. A increasing proliferation of protectionist barriers erected by industrialised nations served as a foundation for the high levels of debt incurred by emerging countries. The majority of developed nations have implemented a regressive economic strategy. Domestic demand was lowered in order to combat the cost-push inflation that had resulted from the increase in gasoline costs, which was the cause of the cost-push inflation. As a result, the term "stagflation" was coined to describe the situation. As a consequence, the export prices of emerging nations have generally declined. It was during the period 1979 to 1983 that the industrialised nations made concentrated attempts to keep inflation under control by tightening monetary policy. That's why, the rate of interest was quite high throughout this time period.

2. Internal Factors

Several internal factors prevailing in the economy also contributed to the buildup of the burden of External debt in India. In order to fund investment and infrastructure projects, the nation must borrow money. This helps the country to enhance production, exports, and revenue. Over time, this flow of external resources should enable the nation to limit the rise of its external debt to the point when net debt repayment starts to take place, allowing the country to become debt-free. This should be done by properly managing the resources. Economic progress would eventually reach a point where the country's availability of savings permits it to begin lending overseas and eventually become a net creditor nation, according to theory. This notion, on the other hand, did not pan out.

Crop failures, natural catastrophes, and a cyclical slowdown in key export markets, modernisation of agriculture or the establishment of new or more sophisticated enterprises, slow economic development in developing countries, rising public expenditure, the emergence of new welfare capitalism, and Keynes' general theory of fighting depression by creating effective demand (first published in 1936), were major contributors to the rising level of debt in

the developing world. The persistent worsening in the terms of trade of developing nations, as well as unfavourable meteorological circumstances in the debtor countries, contributed to the decline in exports. Natural disasters such as hunger, flood, and earthquake exacerbated the situation further.

Additionally, the cumulative consequences of continued brain drain, unpopular domestic debt, transitory budget deficits, unpopular taxation, and inflationary deficit financing all led to the growth of public debt in emerging nations, which was previously unsustainable. From 1981 to 1983, the fiscal deficit in the most highly burdened nations increased from 10 percent to 15 percent of GDP. The inability of emerging nations to save and invest enough money at home was the root cause of their fiscal imbalance. Using finances from outside sources. Using resources for pointless ends and wasting material resources in an unproductive and wasteful weapons race were other significant contributors to the unmanageable growth of debt and debt servicing. Capital flight as a result of instabilities in the political environment has become one of the most significant contributors to the increase of debt.
Consequently, both external and internal forces were accountable for the accumulation of debt and the service of that debt, resulting in the emergence of a financial crisis. When a government does not have the financial means to repay its debt, it must come up with an alternate solution, such as halting repayments, seeking legal jurisdiction, obtaining sovereign immunity, or servicing its obligation, among other things.

1.3 A Prelude to External Debt in India

Initially, India's ED was low after the independence the poor economic strategies increase the debt on India, India's foreign debt (medium and long) increased from 1.8% of GDP at the completion of March 1955 to nearly 17% by the end of March 1970. During the 1980s, commercial borrowings and IMF loans were used to fund the expansion of the CAD. As a consequence, by the end of March 1991, total foreign debt had risen to 28.7% of GDP. India's foreign debt has changed significantly in size and composition since the start of economic reform in 1991, reflecting policy changes driving the overall ED strategy. The globalisation of current account transactions is going to lead to current account fixed exchange rates while keeping the computer-aided design within sustainable limits; that keeps outer vulnerabilities in mind while discouraging too much borrowing; all of these measures are necessary to achieve these goals.

Throughout these years, the Indian economy's performance has seen a prominent role ascribed to foreign debt on the grounds that it would be utilised for planned investment to achieve fast economic development. Given the present trend of ED, it is critical to ascertain the impact of external impact of debt on Economic development. The advent of a major ED crisis in 1990 necessitated close scrutiny of several facets of economic administration. This resulted in the establishment of an external debt management section under the Finance Ministry, which works closely with the "Reserve Bank of India" (RBI). India's enormous foreign debt burden has diverted the country's priority to debt payment. As foreign debt rose, the size of service costs climbed proportionately. Increased import requirements further added to this burden of rising debt and servicing rates. The second component of the debt payment issue is connected to the debtor country's import reduction. India's current account deficit has continuously expanded over the years, forcing the country to borrow at increasing interest rates from foreign banks to cover the deficits. As a result, its foreign debt quadrupled.

On the domestic front, India saw a decline in exports, a decline in domestic savings, and a decline in returns on previous investments. Indeed, this was a terrible position for it. The current economic trend contributed to the increased worry about maintaining a sustainable foreign debt.Numerous rich and developing nations fiscal fortunes have deteriorated significantly over the last few decades, leaving governments with chronic deficits. While accruing loans is a natural and necessary part of every country's foreign economic activity, the issue that requires consideration is how long a government may continue to accrue external debt without approaching sovereign bankruptcy. This way, it can avoid arrears and keep its economic growth at a good rate.

A comprehensive view of many nations' economic performance throughout the 1990s indicates a continuous expansion in cross-border private sector flows, private sector exposure to foreign borrowing, widespread issuance of debt securities, and usage of financial derivatives and related instruments. All of these trends need a broader examination of foreign debt. External loan use in India has been closely related to the objectives and projects contained in the five-year plan. Thus, if the assistance has been used in a certain way, the substantial investment in heavy industries is defined by plan policies rather than the idea of optimal aid usage, and thus the aid benefits cannot be judged in isolation but as part of the overall economic development strategies. External borrowing by the government must be tied to effective and profitable use of foreign funds. The government had to be cautious when it came to the long-term total of external debt and the policy it implemented to man-

age it. This included things like focusing on getting loans from the absolute cheapest sources, preferably with a higher maturity profile, boosting export growth, keeping short-term debt under control, maintaining commercial debt within reasonable limits, and encouraging capital flows that did not involve any debt.

In terms of the relevance of ED usage, sustainable levels of debt are expected to boost development in low-capital nations provided borrowing is productive and generates foreign cash, allowing debt to be paid without deflating the economy to save on imports. When debt increases at a quicker pace than the borrower's ability to pay it, it becomes unsustainable. The anticipated cost of debt servicing inhibits both domestic and international investment, as investors worry the economy may collapse or they would be 'taxed' to cover the loans.External borrowings, in addition to being utilised for current consumption and investment, should be used to increase the country's export capability in order to service future debts. External debt management is critical in balancing resource mobilisation, their deployment, and future debt repayment. With such fragile expectations placed on external debt management, a country must tread carefully in implementing appropriate external debt solutions that ensure its sustainability while also assuring economic development.

To have a better understanding of a nation's capability to meet its external commitments on an ongoing basis, it is critical to examine the scope and scale of the different components of foreign debt over a period of years. External debt is categorised into seven categories in India:

(a) Bilateral Debt

(b) IMF loans

(c) Trade Credits

(d) Rupee debt

(e) Commercial Borrowings

(f) Non-resident Indian deposits

(g) Multilateral Debt

Even within these categories, debt is classified according to the kind of burden it imposes:

(a) concessional

(or) non-concessional.

External debt can also be grouped into four categories:

(a) creditor-related,

(b) borrower-related,

(c) Instrument-related,

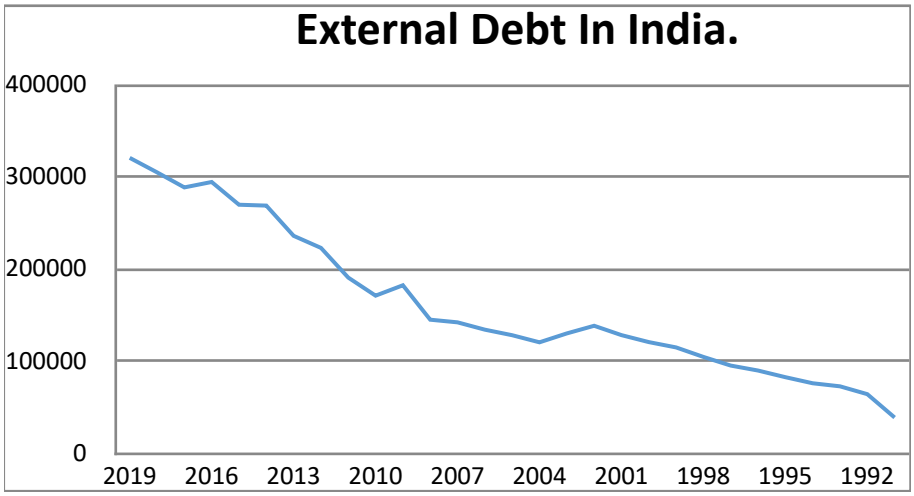
(d) and currency-related.

These classifications were devised to aid in the comprehension of the rise and composition of foreign debt. The creditor-by-creditor categorisation enables an understanding of the different sources of foreign debt, such as multilateral, bilateral, and IMF. To classify the total foreign debt as either government or non-government, borrower-wise grouping is used.. The instrument-by-instrument classification indicates which debt instruments were used to obtain debt. These instruments include, but are not limited to, bonds, loans, ECBs, NRI deposits, and export credit. This division aids in comprehending the level of foreign debt by instrument. The currency-by-currency breakdown illustrates the denominations of different currencies in the total foreign debt. Because these currencies are pegged to exchange rates, modifications in exchange rates impacts country's ability to service its external debt. India views international debt as a source of cash that fills both of the economy's deficiencies.

However, this categorisation is solely internal and has no bearing on the external situation; it has relevance only for the host nation, and even then, only in the form of cheap interest rates and extended repayment periods. A thorough understanding of the foreign debt's composition necessitates an analytical examination of the performance of the different debt sustainability metrics. Essentially, India's foreign debt arrangements shortly after independence were based on capital requirements and economic investment requirements. External debt in India has been increasing year after year since independence, as seen in Figure 1.1. External debt buildup in the early years after independence is mostly attributable to capital needed to power the five-year plans' goals. Additionally, several economic policies and events influenced the growth in debt capital needs. Among these events are the Indo-China and Indo-Pak wars, as well as government actions that harmed foreign capital flows. The external debt demand in the early 1990s was linked to capital requirements and balance of payment (BoP) adjustments. External debt was largely amassed during this era in order to avert a BoP crisis in the nation.

Figure 1.1

Trend of External Debt in India Economy.



Source: RBI Database, www.rbi.org.in .

Throughout the 1990s, the Iraq-Kuwait conflict and political instability in the nation exacerbated the economy's fiscal problems. Fiscal deficits spilled over into current account deficits in balance of payments accounts, which were funded by external borrowings (Cerra and Saxena, 2000). The Gulf War, the conflict between Kuwait and Iraq, also boosted needs to import and decline in shipments of goods and services, contribute to negative invisible growth and an all-time high current account deficit. In a nutshell, the buildup of foreign debt during this time was mostly a result of persistent current account deficit problems.

To address chronic current account deficits, India's government sought IMF assistance under the modified compensatory and contingency financing facility. Year after year, borrowings resulted in an increase in foreign debt that was more than twice that of the preceding decade. The pattern of India's foreign debt buildup from 1990-91 to 2019-20 indicates a growing tendency. The early years after 1991 were ascribed to the country's BoP troubles. At the aggregate level, India's foreign debt buildup is a result of spillover effects from fiscal deficits, persistent current account deficits, and currency, interest rate, and macroeconomic policy valuation changes.

Therefore, a thorough investigation of the impact of ED on India's economic development as well as the viability of India's foreign debt levels post-reforms may provide insight on the main hurdles.Current research encompasses the years 1991–92 to 2019–20, spanning two generations of economic reforms in the Indian economy following the 1990 macroeconomic crisis, which was characterised by large fiscal imbalances (internal imbalances) and massive current account deficits (external imbalances), as well as high levels of domestic inflation. India's foreign debt increased

significantly as a result of liberalisation, privatisation, and globalisation policies, and also the fall-out from the worldwide financial meltdown of 2008. Thus, this research will examine the rise and composition of India's foreign debt from 1991-92 to 2019-20, while also examining the sustainability of the country's absolute increase in external debt and its influence on economic development.

1.4 Statement of The Problem

Although increasing economic growth is the stated objective of ED (External Debt), if it is not handled effectively, to put it another way, it might slow down economic growth.Many studies(Villanueva, 1972, Saint-Paul, 1992, Zak and Knack, 2001, and Acemoglu and Robinson, 2006) have shown that the buildup of external debt, especially in developing nations, may lead to a debt overhang issue and a poverty trap economy. The empirical research on the subject of external debt shows a similar state of things in rich and developing nations when it comes to a range of external debt difficulties. However, there has yet to be a thorough research that covers a wide range of topics in relation to developing nations in general and India in particular. India's external debt rose by 2.8 percent (American $15.4 billions) year on year to American $ 558.5 billions at ending of March 2020. This slow development contrasts with the explosive growth seen in the initial five years of the prior decade. Without price increases, the increment in ED at the end of March 2020 over the end of March 2019 would have been US $ 32.0 billion instead of US $ 15.4 billion. The rising of the US dollar has resulted in more value gains than losses in recent years.

The amount of ED as a percentage of GDP went up a little to 20.6 percent at the end of March 2020, up from 19.8 % a year earlier. The ratio climbed for five years in a row, till end of March 2010 to end of March 2015, reflecting strong advancement in foreign debt over the first 5 years of the last decade, but since March 2016, things have changed. There was also a change in the way external debt was made up. Commercial borrowings now make up 38.1% of external debt, while non-resident deposits make up 23.9% and relatively brief trade credit makes up the rest (18.2 per cent).

Since external debt is an important fiscal as well as an economic instrument , it has a major impact on the macro-economic performance of an economy. Its impact can vary from welfare of the people to political security and sovereignty of a nation. As a result, the researcher believes it is necessary to explore many elements of foreign debt in the context of India, as well as to determine whether external debt has really fuelled India's economic engine. Because of this, the current research aims to

investigate the variables that contributed to the rise of foreign debt and its composition between 1990 and 2020. It also intends to investigate the effects of foreign debt load and the efficacy of policies in addressing external debt burden. The goal of the research is to answer the following questions:

1. What is the magnitude of growth of India's external debt?
2. What are the factors responsible for the growth of India's external debt?
3. Are there any significant changes in the composition of India's external debt?If so, what are the magnitude of changes in different components?
4. What are the factors that caused the changes in the composition of external debt?
5. What are the causes of External Debt in India?
6. What are the Impact of external debt on Macroeconomic variables such as GDP,Exchange rate, Foreign Exchange Reserve and Net Exports in India?
7. Is the prevailing external debt in India following a sustainable or vulnerable trend?

1.5 Objectives of the Study.

The study is centred around the following four objectives ;

- *To analyse the trend, growth, structure and composition of external debt in India.*
- *To bring out the causal relationship between the external debt and saving-investment gap, fiscal gap and foreign exchange gap in India*
- *To analyse the Impact of public debt on Macroeconomic variables such as GDP, FDI, Foreign Exchange Reserve, Gross Fiscal Deficit and Net Exports in India..*
- *To analyse the external debt sustainability or vulnerability of Indian economy.*

1.6 Chapterisation.

The study “External Debt Experience of Indian Economy: A Study of its Growth, Causes, Impact, and Sustainability"” has been presented in seven chapters.

Chapter I : A Prelude to External Debt Scenario in Indian economy.

- Is the introductory chapter which introduces the concept of government debt, and deals with the role of public debt in India, the causes of public debt, and the current debt position.
- Apart from that, the statement of the problem, the objectives of the research, importance and the layout of the study will also be presented in this chapter.
- This chapter also covers the methodology adopted for the study, limitations of the study and the major conclusions drawn.

Chapter II : Review of Literature.

- It will be devoted to the summary of a comprehensive review of the related literature and the methodology adopted in this study.
- It envelops the studies related to the international as well as the national scenario of external debt.
- Studies related to various aspects of external debt are also reviewed in this chapter.

Chapter III : India's External Debt : Its Trend , Growth, Structure and Composition

- Discusses the trend and growth of the different components of ED in India.
- Analyses the structure and composition of ED in India
- Also brings out if any change in the structure of ED in India and the factors behind it and magnitude of such changes.
- Also analyses the changes in the key external indebtedness indicators of Indian economy during the period under study,

Chapter IV: A Causal Analysis for the influx of External Debt in India due to the deficits.

- Uses secondary data to bring out the causal factors behind the external debt in India.
- Uses Granger Causality test to find out what caused the ED and saving-investment gap, fiscal gap, foreign exchange gap in India.
- Draw conclusions after analysing the Granger Causality results on the possible influence of the three deficits on the ED inflows.

Chapter V: A Macroeconomic analysis of the impact of External Debt in India .

- Gives a macroeconomic overview of Public Debt in India
- Investigates the possible variables that is most adversely impacted by the external debt scenario.
- Uses Vector Error Correction and ARDL models to evaluate the results of public debt on the Macroeconomic variables such as GDP, FDI, Foreign Exchange Reserve, Gross Fiscal Deficit and Net Exports in India..

Chapter VI: External debt sustainability: An analysis of the Indian Economy.

- Presents the idea of public debt sustainability or vulnerability by using a number of sustainability tools.
- Identifies the debt structure's or policy framework's sustainability or vulnerability early enough for policy reforms to be implemented before debt trap develop.
- Examine in situations when such problems have arisen or are expected to do so, the impact of various debt-stabilizing policy options.
- Uses the Debt Sustainability Frame work developed by the IMF to analyse the debt sustainability of the Indian Economy.

Chapter VII: Conclusion and Major findings.

- The last chapter presents the findings of the study
- In the light of the empirical analysis draws some policy conclusions by the way of supportive measures for enhancing the benefits of external debt and ensure its sustainability over time.

1.7 Importance of the study

Although it is true that the goal of external debt is to promote economic development, when external debt is not managed properly, it has a detrimental impact on economic growth.Multiple studies have concluded that, the accumulation of ED, particularly in developing countries, possible Origin of Debt Overhang and Original Sin Issue. The empirical research available on the subject of ED reveals an identical state of things in relation to a number of concerns of foreign debt in both developed and developing nations, with the exception of few emerging countries. However, as of now, there is no comprehensive research that takes into account a wide range of factors in relation to de-

veloping nations in general and India in particular. Although a number of researchers have attempted to study various aspects of external debt, it includes the causes of external debt accumulation, debt sustainability, and the relationship between ED and growth in various economic environments, there has yet to be a comprehensive study covering all of these aspects in the Indian context. The current research examines several aspects of India's foreign debt, including its growth, type, reasons of debt accumulation, and the influence of ED on macroeconomic performance of the nation, among unknown things and the external debt sustainability as well.

The research contributes to the body of information already available on the topic. The results of the research would be advantageous to different groups of individuals, First and foremost, the findings of the research would be relevant to the Indian government and policy-making institutions in developing macroeconomic policies and strategies for reducing and managing the country's foreign debt. As a second benefit, it will open up new avenues of inquiry for academicians, researchers, and students who are interested in problems related to foreign finance, among other macroeconomic concerns.

1.8 Research Methodology and Data .

The detailed summary of the methodology adopted by the researcher to analyse the above mentioned objectives are as follows , for gaining a better understanding of the composition , trend and growth of India's external debt growth, the researcher examined the trend and pattern of external debt using secondary data gathered from the External Debt Status Reports and the official websites of the Reserve Bank of India (RBI) and the Ministry of Finance , IMF and world bank reports. The systems, procedures, and proposals developed by the Indian government for the management of foreign debt have been examined using secondary information obtained from the publications of RBI, the Ministry of Finance, and other regulatory bodies.

Inorder to analyse the annual flow of ED and the causal effect on the same Granger Causality test is used about six sets of hypothesis were tested and validated. The IMF (International Monetary Fund) and the World Bank developed debt performance metrics that are used to evaluate India's foreign debt sustainability. To attain this objective, the researcher applied both the accounting method as well as the current value borrowing constraint strategy. For the purpose of analysing the impact of external debt on India's macroeconomic performance, the researcher first identified the major indicators of macroeconomic performance by reviewing the available literature, external debt status reports, economic surveys, and other reports published by the Government of India. Then, the Vector Error Correction (VER) and ARDL Models are used to capture the influence of specified factors on

India's foreign debt scenario, and examined the impact of ED on the identified variables. Based on the conclusions of the analysis, the best policy alternatives and a comprehensive external debt management plan are developed.

Data & Information Sources

It contains annual statistics from 1990-1991 to 2019-20. It comes from a variety of sources. It is based on secondary data that has been gathered from both published and unpublished materials. There were significant discrepancies between the external debt statistics published by the RBI and India's central government, as well as between the estimates released by the Indian authorities and those released by international institutions such as the World Bank, IMF, the Institute of International Finance (IIF), Organization for Economic Co-operation and Development(OECD), and Bank for International Settlements (BIS). Consequently, the researcher was compelled to depend on external debt statistics from other countries in order to conduct analysis and comparisons. It has been consistently shown that Indian government data on foreign debt was overstated when compared to data given by international organisations. For example, the Indian authorities were hesitant to categorise NRI deposits as debt, but the World Bank considers NRI deposits and the interest that has accumulated on those accounts to be debt obligations. In addition to data coverage, currency conversion variables, debt valuation technique, and in concept definition etc. there were discrepancies. In this regard, In order to reconcile the data on foreign debt, the Government of India established a Task Force on External Debt Statistics of India in 1992, and the debt statistics produced by this Task Force have been enhanced in terms of definition, coverage, and currency conversions. Since 1992, RBI and India's central government have both published statistics on India's foreign debt in a consistent and enhanced manner, as recommended by the Task Force.

This research is predicated on secondary data gathered from the World Debt Tables (World Bank), the RBI's Economics and Currency Report, the Government of India's Reports of Economic Survey, the International Monetary Fund's International Financial Statistics and the Yearbook of Balance of Payments by IMF. Also include reports from Economic Survey, RBI Bulletin, as well as the , CSO, NSSO, Ministry of Statistics and Programme Implementation (MOSPI), World Bank, IMF and OECD database, World Debt Table, RBI Staff Papers, RBI Occasional Papers, IMF Staff Papers, Economics and Political Weekly, World Development Report, IMF Working Paper, World Economic Outlook and from Journals and Books. A variety of sources, including books, journals, studies, working papers, newspapers etc. Data was also collected from the independent data agencies like

CMIE Data base. Microsoft Excel and Statistics were used for compiling, sorting, conditioning and analysis of the collected data.

Choice of period and area under study.

The study is confined to the analysis of a particular developing economy only like India. India is among the major developing nations whose economic inertia the world is looking into. A total of 8% of global growth may be attributed to it. Over the last decade, economic growth in the World has averaged 6.4%. The average annual growth rate over the previous three years has been more than 8%. Integrative measures of India's commercial and financial markets have also grown significantly during the last decade. The share of GDP attributed to international commerce has grown from 25.06 percent in 1990–91 to 42.14 percent in 2019–20. Financial integration grew from 15.33 percent to 23.88 percent throughout the same time. The era selected for analysis and research on India's external debt is 1990-2020. This time period was chosen for a specific reason. India embarked on substantial economic reforms in 1990's. The government adopted major economic changes in order to build an open, diverse, export-oriented economy headed by the private sector. The reforms included implementing effective fiscal and monetary policies, liberalising prices and exchange rates, lowering tariffs and removing other trade barriers, gradually deregulating crop marketing, removing barriers to overseas portfolio investment in domestic-listed equities, and launching a corporate restructuring and privatization programme of state assets. With this feature, it would be necessary to investigate the many aspects of foreign debt throughout the reform period since its paved the way for many structural and compositional change in India's External debt.

1.9 Limitations of the study

Despite the fact that there are several merits to the research, it is not without limitations. It is subject to all of the restrictions that are imposed by time and space. The geographical scope of the research is limited to a single emerging nation, namely India. The research is limited to the era after the Economic Reforms in India. The study relies only on secondary resources, and it may be subject to all of the limitations associated with the use of secondary data sources, such as missing data, inaccuracy, and difficulty in compiling information etc.

1.10 Summary

To say that something is developing is to say that it is undergoing change, and that this change is for the better. Theorists emphasised the importance of capital in a country's change in favour of its economic growth and development. Both internal and external resources may provide the development capital needed. Financial help and grants from other countries as well as investment from outside are examples of external sources. There are many benefits of using external debt as a source of capital, but there are also risks, including debt servicing difficulties, debt overhang, and debt crises if it isn't effectively handled. More harmful than domestic debt are the implications of heavy overseas debt. If a nation depends too much on foreign borrowings, it is possible for this to happen. No nation is completely safe from a financial collapse. Throughout the country's history, India has relied on loans from other countries to fund its economy. After the financial crisis of the 1990s, there was a noticeable increase in gross external debt. For policymakers and scholars alike, India's gross foreign debt has been steadily rising since the early 1990s. Many concerns arise as a result of this upward tendency, such as: What are the reasons of excessive debt?, Has the nation's foreign debt helped to its economic growth?, and how effectively the country has handled its external debt? With these concerns in mind, this research examines the rise, sources, effect and management of India's foreign debt.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

The availability of natural resources varies greatly per country. Due to uneven resource allocation, no country could produce all the commodities and services they wanted effectively or affordably. If an impoverished or developing nation wants to expand rapidly, it must import technology, equipment, machines, and even raw resources. Increasing exports is one way to pay for imports. To do so, the government must substantially reduce consumption and increase exports. This is not feasible in a democratic nation like India. The second option is to rely on foreign aid, assistance, and borrowings. So, to accelerate their economic growth, today's emerging nations favour foreign resource inputs. As a result, multilateral organisations like the World Bank, the IMF and its group of institutions, as well as bilateral OECD donor nations, began offering very lenient foreign aid. In this context, academics, researchers, policymakers, public administrators, planners, economists, and analysts have focused on the importance of external help in economic development. Much research has been undertaken on different aspects of foreign aid, assistance, and borrowings. This chapter attempts to evaluate past research.

This chapter is arranged as follows: The first portion covers a summary of studies on the external debt burden of developing economies in the world. The second section examines several aspects of the debt sustainability of developing economies across the world. The third section deals with studies related to debt overhang and other economic phenomena like debt Laffer curve analysis . The fourth section deals with the studies on ED analysis of the Indian economy. It covers a wide range of aspects of the debt burden of the Indian economy, its significance in the expansion of India's economy, and the political economy of foreign aid, etc. The final section is the conclusion drawn after this comprehensive review , stating the importance of the present study.

2.2 Summary of the Review of studies on External Debt of Developing economies

It was first proposed by Chenery (1950) to explain the function of foreign borrowings in a nation's growth process. Chenery and Bruno took care of formalising this (1962). It builds on the work of Roy Harrod (1939) and EvseyDomar (1946) on the theory of economic development in closed economies, which is the basis for the Harrod-Domar model. According to the dual gap hypothesis, in order to reach the desired rate of economic development, we must borrow money from abroad at

a higher rate. For this reason, it is hypothesized that borrowing from abroad facilitates communication or connection between savings and investment inside the country, helping to fill the gap between the two. The import-export gap may be filled with the help of foreign borrowing. As a result, they contribute to both internal and international growth. When a country's "Balance of Payments" (BoP) account seems to be in the red, it must borrow money from somewhere else.

When it comes to sub-Saharan Africa, Krumn (1985) looked at the issue of foreign debt. There are several potential explanations for the high levels of foreign debt in Sub-Saharan Africa, including rigid state spending, oil price fluctuations, trade conditions, interest rates, and a lack of economic convergence.As Park (1985) found in his research of Korea's foreign debt, the country's creditworthiness stayed intact throughout its most difficult times. To bridge the gap between investment and savings in Korea, international borrowing was often referred to as borrowing from abroad. There were no free capital inflows or outflows. According to Park, there was little indication that the influx of foreign wealth had a negative impact on Korean savings.

By researching the Philippines from 1970 to 1990, Borensztein (1990) found support for the basic assumption that growing foreign debt stock leads to a decrease in domestic investment. It is calculated by looking at the price of investment products, the actual interest rates in the country, and foreign debt. He argued that a 1.3 billion US dollar decrease in foreign debt in the Philippines boosted local investment by one percentage point.Ajayi (1991) collected data from time series between 1970 and 1988 to investigate visible internal and foreign elements that contributed to Nigeria's external debt crisis. On the domestic front, fiscal irresponsibility, current account concerns, and overvalued currency rates were mostly responsible for Nigeria's foreign debt growth, he said, utilising theoretical underpinnings and decomposition methodologies. Changes in the terms of trade were taken into account when calculating the external share of real and nominal interest rate increases.

Over the course of a decade, Warner (1992) studied the effects of the financial meltdown on development in 13 emerging nations with low per capita income (LDCs). According to the Ordinary Least Square (OLS) assessment, decreased investment rates owing to the debt crisis are the first warning signs of debt overhang issues. The key factors of lesser investment are falling exports; increased interest rates and stagnating growth are the major sources of lower investment in industrialised nations.Fosu (1996) used ordinary least square methodology to conduct an empirical analysis on the connection between economic development debt owed to foreign countries by a selection of

Sub-Saharan African countries between 1970 and 1986. The research found that the more foreign debt a country has, the less growth it experiences.

According to Rajan and Zingales (1996), who studied industry-level data from 27 nations, foreign finance is positively associated with growth. This research examined how foreign aid affects local savings in Nigeria. This is a need because of the lack of time series research on the influence of foreign assistance on Nigerian domestic savings in the majority of studies, which are either panel data or cross-country analytic frameworks that don't actually highlight individual nation features. The research found that both short-term and long-term foreign assistance inflow to Nigeria has a positive influence on domestic savings, but overall debt service payback has a negative effect on domestic savings.

The link between Central Asian nations' current account deficits and external debt was analysed by Wachtel Paul (1998).Specifically, the research aimed to examine financial accounts and the level of international debt from 1990 to 1999. Large current account imbalances were shown to be the primary cause of foreign debt.Pakistan's budget deficit and debt were mathematically examined by Ishfaq and Chaudhary (1999). From 1980 to 1995, the research examined public debt trends, its composition, and growth. A generated model showed that the budget deficit and borrowings from both internal and external sources are linked. From 1976 to 1988, Hasan (1999) studied the nature and causes of Pakistan's foreign debt. That country's foreign debt is a result of interest rates, falling government re venues, current account deficits, and macroeconomic instability.

In an open economy, Semmler and Sieveking (2000) saw foreign debt as a key factor for financing consumption. The research was based on data gleaned through model simulations. The research also attempted to establish a link between the stock of foreign debt and its critical level using simulations. Debt management capability was emphasised by Bangura et al. (2000) as an important factor in improving the economies of highly indebted and impoverished nations. In the research, important management methods from throughout the world were described theoretically and empirically. The findings of the research also pointed out the essentials of debt management.

Over the period 1987 to 2001, Kemal (2001) highlighted Pakistan's economic progress and poverty as a result of debt buildup. ED should be used to fill up substantial gaps in resources identified in research using decomposition effects. The buildup of foreign debt is a result of these two deficits. It

was they (2001) who looked at the reasons for Kenya's foreign debt. He said that Kenya's foreign debt is mainly due to the country's balance of payments deficits, fiscal deficit, overvalued exchange rate, negative real interest rates, debt servicing, rate of inflation, and public and private investments. During a discussion of the crowding-out impact of debt, Pattillo et al. (2002) said that it occurs when ED payment investment stifles crowding or modifies categorization of government spending. In this case, foreign currency gains from a nation's exports are used to pay off its debts. When addressing the idea of debt overhang, he argued that the predicted debt-price of services may discourage additional domestic and foreign investment. thus investors are interested in spending money in the short term to increase output in the long term.

To find out how low-income nations' foreign debt affects their economic development, Clements et al. (2003) used a variety of econometric methodologies. They utilised data from 55 low-income nations spanning 29 years, from 1970 to 1999. The research found an adverse association between the growth of a country's economy and its foreign debt. External debt and economic development in highly indebted and impoverished nations are inversely related because of the massive volume of foreign debt, which makes it harder to pay external debt and eventually limits growth. Research has been conducted in an effort to determine what factors led to an increase in the country's foreign debt.

For example, in his research on Nigerian and Moroccan foreign debt, Samson (2003) found that fiscal spending and domestic savings were responsible for the internal cause, whereas average international interest rates and the balance of payments were the external causes. External debt is linked to higher interest rates throughout the world and more government spending, while domestic savings and the balance of payments are severely affected. Studying debt buildup in the country from 1980 to 2003, Bilque (2003) found that the large budget deficits and policy concerns surrounding mobilising domestic savings for use as domestic resources resulted in a debt trap and unsupportable levels of foreign debt.A study by Bhatta (2003) looked at the link between Nepal's GNP, its foreign debt, and its exports. The author used the OLS (Ordinal Least Squares) methodology to examine the relationship between real GDP and the flow of foreign debt to GDP, ED stock to GDP, and external debt servicing. According to the findings, Nepal's economic development was boosted by foreign debt.

A study by Clements et al. (2003) attempted to use OLS to examine the link between external debt and terms of trade as well as the population, gross investment, and GDP of HIPCs (highly indebted

poor countries). According to the researchers, real GDP growth was unaffected by debt payment. Prior to and during the financial crisis of the nineties, Bharumshah and Thanoon (2006) attempted to investigate the impact that foreign capital flows had on building sustainable savings and growth. Savings, long- and short-term debt, and foreign direct investment (FDI) were all considered independent variables in the analysis, whereas GDP was the lone determinant. The researchers employed OLS on time series data from six Asian nations between 1965 and 2000 for the purpose of the study. According to the findings of the research, when the economies of selected Asian nations were in crisis, short-term debt had a detrimental influence on domestic savings.

Multivariate cointegration regression was employed by Saibu et al. (2005) in a research on the macroeconomic causes of Nigeria's external debt load. The government's budget deficit, interest rates, currency exchange rates, foreign reserves, and exports of commodities and services are all elements that contribute to debt accumulation, they said. The model predicts that a few variables will have long-term effects on foreign debt.

According to Anorou et al. (2006), the currency rate, the current account balance, and interest payments are all elements that contribute to the growth of foreign indebtedness in the poor nations studied from 1984 to 2000. It has been shown that increased interest rates have a detrimental impact on the rise of foreign debt. Furthermore, real exchange rates, current account balances, and foreign debt all have a positive correlation. From 1980 to 2005, Perez (2007) examined the causes of debt increases in eight Caribbean nations. He argued that decomposition effects and theoretical grounds led him to argue that debt buildup is driven by fiscal and external sector deficits.

For the period 1975–2004, Luke and Joanna (2008) attempted to investigate the link between foreign debt and domestic savings in selected developing nations. The findings of data analysis using econometric approaches demonstrated a negative association between a country's foreign debt and the amount of money saved inside the country. Adegbite et al. (2008) conducted research in both countries to better understand the link between Nigerian and South African economies' foreign debt and economic development. OLS (Ordinal Least Squares) was used to analyse data from 1980 to 2007. Some nations' economic development was favourably affected by foreign debt, but beyond a certain point, it became negative.

From 1973 to 2006, econometric methodologies were utilised by Chaudhry et al. (2009) to analyse the impact of foreign debt on capital formation and savings in Pakistan. They found that Pakistan's foreign debt had a favourable impact on the country's savings and investments. From 1988 to 2008, Loganathan et al. (2010) evaluated the influence of Malaysia's foreign debt on the country's macroeconomic performance. Macroeconomic performance was measured using government income, the balance of payments, and the government's reserve fund. According to the findings of a cointegration study, Malaysia's foreign debt has a long-term and short-term influence on all macroeconomic variables.

The various causes of Tanzania's foreign debt accumulation between 1975 and 2008 were discussed in detail by Sulley (2010). For example, he found that the fiscal deficit and the trade deficit, as well as domestic savings and interest payments and the REER (Real Effective Exchange Rate), were all important determinants of external debt, and he concluded that the trade deficit, along with the REER "(Real Effective Exchange Rate)", was a negative factor in the overall debt burden.

Additionally, Greenidge et al. (2010) studied variables that contributed to the growth of foreign debt in the Caribbean region between 1987 and 2005. A lack of resources, a budget imbalance, real interest rates (inflation-adjusted US prime lending rate), and real effective exchange rates. Results from a panel cointegration study show that the resource and fiscal deficits contribute favourably, whereas real interest rates, REER, and exports contribute adversely to Caribbean countries' growing external debt.

The ordinal least squares technique was utilised by Lekomola (2010) when examining foreign debt difficulties in Africa during the period 1997 - 2007. There was a positive correlation between government deficits and foreign debt buildup, whereas there was a negative correlation between external debt accumulation and debt service and exchange rates. Using Pakistani data from 1974 to 2008, Awan et al. (2011) conducted cointegration analysis to find the most important variables of the country's foreign debt. Over time, they found that terms of trade, the budget deficit, and exchange rates were the most significant drivers of foreign debt.

According to Ezeabasili et al. (2011), the implications of Nigeria's external debt on the country's inflationary pressures were examined. Time data from 1975 to 2006 were analysed using the Johansen Cointegration Test. In the research, foreign debt and economic growth are adversely associated in the long term. Panel data from the 1990s to 2008 was used by Gohar et al. (2012) to explore the influence of ED service on economic development and the interest rate, savings, net exports,

and foreign direct investment of thirty six low-income countries. Based on regression research, debt service seems to have no effect on economic growth.

Abdelhafidh (2011) used econometric methods to examine the correlation between domestic savings, foreign debt, and financial growth in Tunisia between 1970 and 2008. According to his investigation, short-term debt inflows and savings have a bi-directional causality, whereas long-term debt inflows and savings have a bi-directional causality in Tunisia, according to his investigation. Ali, and Mustafa (2012). The research used econometric methods to analyse data from 1970 to 2010 and showed that Pakistan's economic development was negatively correlated with foreign debt. The country's status as one of the most heavily indebted nations explains the presence of an inverse link. He concluded that Pakistan's high debt levels are directly responsible for the country's poor economic progress.

Research by Alam and Taib (2013) investigated the relationship between foreign debt and its determining elements, including the budget deficit, the existing account deficit, and the depreciation of the currency. According to the Granger causality, Hausman, and Chow tests, all three factors were shown to contribute positively to the growth of foreign debt. In the period from 1970 to 2010, Aminu et al. (2013) examined the impact of foreign debt on Nigerian economic growth. The findings of the OLS employed to analyse the data indicated that Nigeria's economic development has been adversely influenced by foreign debt.

Mexico's foreign debt and macroeconomic performance were examined from 1995 to 2005 by Sidaoui (2014). When he examined the importance of debt management policies and tactics in reestablishing and stabilising the economy, he came to the conclusion that they had helped the country's efforts to maintain a stable economy. Another research, by Awan et al. (2014), looked at the primary factors of Pakistan's foreign debt buildup from 1976 to 2010. According to ARDL modelling, Pakistan's long-term external debt buildup is mostly due to the country's fiscal deficits and terms of trade, trade openness, foreign assistance, and the National Economic Empowerment (NEER).

Mulugeta (2014) employed Johnson cointegration in a research on debt accumulation in Ethiopia between 1983 and 2013 to identify the elements that contributed to external debt buildup. Poor economic performance, rising oil costs, BoP deficits, and rising global interest rates, according to the

researcher, are all contributing to an increment in lengthy foreign debt. Using data from 1990 to 2013, Mehta and Kayumi (2014) examined the influence of India's current account deficit on the country's external borrowing and currency exchange rates. It was found that the "current account deficit and foreign debt" had a strong negative association.

The relationship between Serbia's fiscal deficits and public debt and the nation's economic progress was examined by Aleksandra et al. (2014). The research employed statistical approaches to examine data from 2002 to 2012 and found that crises led to deficit accumulation, which, therefore, led to a rise in the use of external debt to cover budget shortfalls. In Jordan, Sahateet et al. (2014) looked at the connection between the budget deficit and the country's foreign debt. Cointegration analysis was used to calculate the link between 1992 and 2012. According to the conclusions of the research, foreign debt and budget deficits in Jordan do not have a long-term causal connection.

From 1980 to 2013, Abdullahi et al. (2015) used the ARDL modelling approach to identify the long and short-term contributors to foreign debt accumulation in Nigeria as the budget deficit, interest rates, exchange rates, and savings. Edirneligil and Mucuk (2015) highlighted the impact of international debt on Turkish economic development. The research examined quarterly time series from 2002 to 2014. Impulse Response Function,Cointegration Test and Variance Decomposition Tests were employed in the research for data analysis purposes. The study finds no connection between foreign debt and economic development over the long run.

In Mauritania, Mahmoud (2015) analysed the impact of international debt on domestic growth. It employed ordinal least square estimations and a Johansen Cointegration Test between 1989 and 2012. The growth in GDP was shown to be positively related to the amount of debt owed to other countries, but the findings of the Johansen Cointegration Test indicated a negative correlation.

Forgha et al. (2015) utilised two stage least squares (TSLS) on sequences of measurements throughout time from 1980 to 2013 to evaluate the effect of domestic investment and foreign debt on Cameroon's economic development. The findings showed that although Cameroon's foreign debt had an adverse association with growth, domestic investment had a positive impact.

Using data from Malaysia, Munir et al. (2016) evaluated the optimum amount of foreign debt and the link between debt growth and external debt. From 1970 to 2013, econometric methods were used in the investigation. The findings showed a long-term correlation between the rise of foreign debt and economic output.

In Jordan, Al-Fawwaz (2016) used ARDL to evaluate factors associated with foreign debt from 1990 to 2014. Foreign debt in Jordan is positively associated with resource deficits, whereas the openness of the economy, the exchange rate, and per capita GDP are adversely associated with external debt. When it comes to budget deficits and foreign debt, Cukurcayir (2016) looked at the link between Turkey and Spain from 2010 to 2014. The analysis found that both nations' budget deficits are funded externally.

Lau and Lee (2016) employed Granger causality and Johnson cointegration tests to assess the variables responsible for Thailand's and the Philippines' external debt in research on the determinants of ED from 1976-2013, in Thailand and the Philippines. In the instance of Thailand, the findings showed that the CPI and real interest rate are linked to the country's foreign debt in the near term. However, while finding little evidence of short-term links between GDP and foreign debt, researchers concluded that the cost of short-term adjustment fell mostly on GDP and M2. Beyond a 50-year horizon, the ratio of money and quasi-money (M2) to total reserves was revealed to be a more exogenous variable. Debt management policies are needed to restrict external debt buildup and lessen the country's dependency on foreign aid. Several studies have explored the effect of foreign debt on a country's macroeconomic performance. Macroeconomic performance is an evaluation of how well a nation does in accomplishing major policy goals, which are generally focused on fast economic development, macroeconomic stability, and an increase in the actual living standards of people in the country. Macroeconomic performance An appraisal of the economic output of various sectors in accordance with the national development strategy is therefore referred to as macroeconomic performance.

Debt external to SubSaharan Africa has an influence on economic development in Senadza et al. (2017). The research used a generalised approach of moment's estimations and spanned the years 1990 through 2013. According to the findings, nations in Sub-Saharan Africa have an inverse link between their foreign debt and their economic development.

Agricultural sector growth and Nigeria's overall economy were also explored by Ukpe et al. (2017), who investigated the impact of private investment on increasing foreign debt and the agriculture sector. According to OLS data, agricultural growth in Nigeria is inversely correlated with foreign debt and private investment. Kharusi and Ada (2018) explored external debt and economic development in Oman. The research employed a cointegration model that included time series from 1990 to 2015 for the purpose of analysis. According to the findings, Oman's economic growth and its level of foreign debt are mutually exclusive.

2.3 Debt sustainability of developing economies

Numerous studies have attempted to investigate debt sustainability, management, and economic development in a variety of various economic situations. Based on assumptions about present and future macroeconomic conditions, most scholars have evaluated the problem of debt sustainability using debt indicators, which include debt and debt payment as a proportion of exports, GDP, and fiscal revenue for the current year, etc.

In Egypt, El-Mahdy and Torayeh (2009) looked at the connection between debt sustainability and economic development. When calculating the cointegration equation for debt and growth in the economy, researchers used data from 1991 to 2007. According to the findings, debt and economic development have a long-term cointegration, and Egypt's debt is within sustainable bounds. In addition, in order to maintain a rising growth-interest rate differential in the future, substantial fiscal reforms are required and policies should be adopted.

Chauvin and Golitin (2010) examined the issue of debt sustainability in SSA LICs for a period of 26 years, i.e. from 1990 to 2010. (1981 to 2007). Resulting from the global financial collapse, rising internal debt, and the increasing importance of developing country development financing, the paper examined the various ways in which the least developed countries (LDCs) can obtain financial support, focusing on the DSF (Debt Sustainability Framework). International initiatives taken to address the increased borrowing requirements of LICs have been effective, and the selected countries have shown an improvement and kept their debt levels under control, according to this paper's conclusion.

Ahmad (2011) by offering a qualitative account of debt and different debt burden indicators and utilising them on debt data for the period 1990 - 2010 in Pakistan, examined how inadequate debt organisation along with the policies of contributing agencies have brought on the current domestic and international debt crisis. According to the research, Pakistan's foreign debt is within acceptable levels. According to Muhanji and Ojah (2011), unsustainable

foreign debt is a result of insufficient efficient governance infrastructure in African nations and poor external shock management. According to their findings, the foreign debt situation in The key policy initiatives undertaken by the selected countries between 1970 and 2006 have benefited African states.

A study by Onyekwelu et al. (2014) studied the impact of different management styles in emerging nations on Nigeria's economy. Other important policy efforts were also examined in the study's 2002-2012 period to see how Nigeria was managing its foreign debt. According to the study's conclusions, Nigeria's debt was manageable throughout the time period under consideration. In Kenya, Ryan, and Maana (2014) used time series data from 1983 to 2013 to estimate cointegration equations in an attempt to determine whether or not debt was sustainable. The foreign debt of Kenya was found to be within sustainable limits based on the findings of traditional ratios, cointegration equations, and stochastic debt sustainability techniques.

The external debt sustainability of Turkey was examined by Goktas and Hepsag (2015), using quarterly data on external debt stock and GDP from 1990 to 2012. It was found that periodic unit tests and structural breakdowns in the traditional ED stock to GDP ratio were employed as a means of measuring the sustainability of debt. According to the conclusions of the article, there is a non-stationary periodic process with a structural break in the ratio of foreign debt stocks to GDP. According to the paper, Turkey's external debt is unsustainable. The impact of Pakistan's foreign debt on the economy of the nation was analysed. Iqbal et al. (2015). The authors' discovery that exports and foreign debt have a considerable positive impact on Pakistan's economic development, but debt service has a negative impact. They used the OLS method to investigate the links between GDP and external debt, debt servicing, and trade data from 1972 to 2013. According to the findings, Pakistan's economic growth is linked to prudent limits on the country's external debt.

Elwasila (2017) assessed the sustainability of Sudan's external debt position. The study's descriptive data covered the years 1992-2015 to examine the debt load. Various policy initiatives for Sudan's debt sustainability were analysed by the researcher using selected ratios. Research found that Sudan's foreign debt load is unsustainable and so requires care.

2.4 Studies related to debt overhang and other economic phenomenon.

Additionally, there are certain scholars who have explored the notions of debt overhang, the Laffer curve, and crowding out impacts on economic performance. Stewart C. Myers initially proposed the idea of a debt overhang in 1977 in his theory of business valuation and the consequences of debt financing. The debt-overhang hypothesis states that, a country's government lacks incentives to pursue macroeconomic changes and policies when its debt levels are very high since the reforms' benefits would only be used to cover the country's outstanding debt. Savvides (1992) examined the effects of the debt overhang problem on 43 less developed countries' economic performance (LDCs). The Limited-Dependence-Stage, Two-Phase Model Variable Model was used to examine the 1980-86 time series data. While non-commercial foreign capital inflows had no substantial impact on the investment slowdown, commercial inflows were shown to have a considerable impact. Researchers concluded that a high debt burden discourages investment.

Pattillo et al. (2002)said that the "debt Laffer curve" could be transformed to a "debt-growth Laffer curve". Foreign borrowing can have a positive impact on investment and economic growth up to specific threshold values, according to Laffer's curve, but it has a negative impact above these levels. To put it another way, this concept is based on the nonlinear link between debt and growth. According to the Debt Laffer Curve (DLC), "larger debt stocks appear to be linked with lower debt payback possibilities." Gains in the face value of the debt are associated with an increase in anticipated debt repayment on the upward or good part of the curve, while rises in debt are associated with a drop in expected debt repayment on the falling or bad half of the curve. "

The debt overhang theory was proved theoretically by Krugman (1988). He looked at the trade-offs that creditors of a nation with a big debt load face when trying to attract fresh funding on their own. According to the study, may either help or hurt a country's incentives, depending on how much debt it has. The tradeoff can be made better, he said, if funding and forgiveness are tied to factors beyond the country's control, like oil prices and global interest rates.

Bachvarova (2008) used a Laffer curve to examine the ethics of debt in 127 nations with low and moderate incomes.The research employed econometric approaches on yearly data from 1990 to 2005 for the aim of analysis. According to the findings, only Myanmar and the Lao People's Democratic Republic (PDR) have debt overhang issues among the Eastern European and Asian nations

studied. Nicaragua is the only Latin American country to exceed its borrowing capacity, while the rest of the region is plagued by debt overhang issues.

From 1860 to 2011, Reinhart et al. (2010) studied the incidence of debt overhang in advanced and emerging economies. The study was conducted when gross public debt exceeds 90% of GDP on a long-term basis. During periods of public debt overhang, growth is lower than during other times. The study's findings were based on criteria and other statistical methodologies, and it was determined that debt overhang was a significant source of output shortfalls in the countries examined. In their study, Sundell and Lemdal (2011) evaluated the consequences of debt overhang among emerging and developed nations. The IMF played a significant role. The research encompassed nineteen heavily indebted poor nations and five heavily indebted rich countries. By utilising econometric approaches with panel data spanning 1980–2000, the research revealed that in developing nations, foreign debt had a negative impact on investments throughout the full LDC-crisis, which confirms the idea of debt overhang. The developed nations, excluding Greece and Portugal, were found not to have the debt overhang issue. In the end, the researchers came to the conclusion that debt overhang is a risk for developing countries.

In the case of Ghana, Tuffour (2012) examines the association between foreign debt and investment. Using "Ordinary Least Square" (OLS) techniques on time series information from 1970 to 2009, the researcher discovered that the prevalence of debt overhang resulted in private investment being crowded out of the economy.

A study by Megersa (2014) looked at the association between long-term debt growth and non-linear income levels in 22 countries in Sub-Saharan Africa. Data from 1990 to 2011 was utilised in the study's analysis, and econometric methods were used. A Laffer curve type link between foreign debt and economic expansion has been established, where debt contributes to the economy until a specific (maximum) level is reached, beyond which it has a negative influence on the economy. According to the outcomes, lower and higher growth rates are linked to greater and lower levels of debt. Additionally, the research employed debt sustainability indices to evaluate the nations' sustainability. Tatu (2014) also looked at the issue of Romania's debt overhang. Using a regression equation using 93 data points for the years 2013–2014, he determined that Romania is on the correct side of the Laffer Curve.

2.5 Studies related to External Debt phenomenon in India economy.

At the time of each of the two oil shocks, Ahluwalia (1986), attempted to evaluate the relative relevance of several factors impacting the Indian current account balance. The spike in oil prices was the most significant factor in the decline. Non-oil import prices, particularly in the non-capital goods category, also had an outsized negative impact on the nation's existing balance..According to Varghese and Varghese(1988),when a number of circumstances, including the slowdown in local mineral oil output, the unfavourable climate for concessional credit, and the substantial imports of essential commodities due to severe drought, are combined, the consequences and the causes are mixed together. Increasing commercial borrowing and a shift in the structure of the country's foreign debt, they argue, are inextricably linked to the trade deficit and trade policy. According to these experts, a better way to quantify debt service capacity than one common method of calculating a country's ability to pay its debts is to look at how much of its GDP goes toward interest and principal payments compared to the value of its exports.

Liquidity standards were examined by Anagol (1990) and found that the typical debt service ratio was insufficient to quantify liquidity needs and pressures. Prior to the liquidity crisis, the author provided a list of warning signs and monitoring points. failure of net transfers, excessive short-term debt, and a deteriorating debt service ratio. Cutting commercial borrowing, supporting non-debt-creating flows like exports, reducing the fiscal deficit and increasing domestic savings were some of the recommendations made by the author in the wake of the liquidity crisis.

According to Arun Ghosh (1993), there has been a lot of discrepancy between the government of India's and the RBI's estimations of ED. When it came to determining the right amount of foreign debt, the disparities in data from different sources produced a lot of uncertainty. There has been an effort by the RBI to reconcile various estimates of the country's foreign debt. The Reserve Bank has established a 'policy group/task force' to determine the parameters for future forecasts. Indian foreign debt obligations have become more transparent, and a long-overdue reconciliation of differing estimates of India's external debt deficits has been attempted by the "Reserve Bank of India" (RBI).

For Sunanda Sen (1994), the Indian foreign economic crisis offers an opportunity to examine its developmental components, which are not as important to lenders in the international market as short-term liquidity concerns. Increasing real transfers would boost GDP growth if marginal saving propensity and the capital-to-output ratio remained unchanged (GDP). Debtor governments may be

obliged to borrow at high conditionality in order to keep up with rising debt payment obligations. As net financial flows decrease as a result of structural adjustment programmes, import propensities will rise. It is the rise in imports that drives the debtor countries into lower real-income brackets. Import-led GDP compression is a term used to explain this.

S.P.Gupta (1994) sought to analyse the impact of planned government financial and monetary reforms on domestic and international debt. Analytical models have been employed by the author to achieve this objective. There have been ten-year alternate estimates of critical debt parameters for domestic and foreign sectors of the Indian economy to examine the influence of current and near-future policy shifts and reform plans. An optimistic and a more realistic forecast are two separate projections. Assuming that reforms are implemented well and that the goals are met in close proximity, this is the most optimistic scenario.

When the liquidity crisis erupted in 1991, Bajpai (1995) attributed it to long-term macroeconomic imbalances that had built up over previous decades. The vast and rising budget imbalance was the primary cause of the catastrophe. The budget deficit also led to a high existing account deficit in the BOP as a consequence of the dynamic interrelationships between it and the trade deficit.

According to Kannan (1989), a significant contribution to monetary disequilibrium was the central bank's debt to the nation., which in turn had a considerable influence on India's "Balance Of Payments" over the years 1968-85. He argued that the monetary disequilibrium issue should be managed either by decreasing the budget deficit or by limiting the central bank's funding of the budget deficit.Trade balances of four South Asian countries, including India, were investigated by Upadhyaya et al. (1999) and stressed the need to reduce external borrowing. A number of explanatory factors were included in their model, including the amount of local and global money, in addition to the actual GDP and nominal rate of exchange. A unit root and cointegration Dickey-Fuller test were used to assess the co-efficients. The findings of the model show that devaluation had no effect on the trade balance, and hence the country's reliance on external borrowing could not be reduced.

Managing foreign debt for economic growth is a key instrument in India, according to Ashok Kumar Maurya (2012). In the 1980s, the Indian government pursued a programme of rapid economic expansion, which resulted in a dramatic rise in foreign debt. There have been a number of long-term infrastructure development projects implemented in India since the country's economic reforms be-

gan in 1991. Foreign debt plays a key part in these kinds of development initiatives, and external help is used to fund the majority of the projects. All kinds of social welfare programmes benefit from the financial support supplied by the "World Bank" and the "International Monetary Fund" (IMF). Non-government borrowing is now the preferred method of borrowing for the public, commercial, and financial sectors. Borrowing from abroad has a significant impact on a wide range of economic indices, including GDP and the fiscal imbalance. Economic development can only be achieved by increasing investment and imports, according to the author. The foreign debt fulfils this purpose. Foreign currency must be generated via increased economic development and exports in order for debt obligations to be met without affecting macroeconomic policy. This is an inescapable guarantee of a greater ED level.

The topic of India's foreign debt was the subject of research conducted by Dr. Preeti Singh (2013). Borrowing money from another nation gives a country the ability to invest or consume more than it otherwise could.Debt-service payments on foreign loans are a trade-off for this advantage to the national economy. A country's exports may provide the foreign cash it needs to meet its debt service obligations. A country's balance of payments may be jeopardised if its foreign currency earnings aren't adequate to meet its debt servicing commitments. Foreign debt payment issues that first surfaced and then intensified in the 1980s and early '90s are no longer an issue.

According to Joy and Panda (2019), The payment of interest on a nation's ED is a major source of money leaving the economy. India, for example, is a developing country, and it is crucial to ensure that the country's savings and investments are not being drained by excessive foreign capital flows. The evolution of India's foreign debt from the 1980s demonstrates that ED has had an enormous influence on the nation's macroeconomic indices. The yearly time trend data from the secondary sources is utilised for the timeframe from 1980 to 2017. The "Augmented Dickey-Fuller"" Test was used to verify the time series characteristics, and the findings were then verified using the Phillips-Perron Unit Root Test. These relationships were examined over time using Johansen cointegration methods. The short- and long-term relationships were examined using VECM and the Granger Causality test. A set of FMOLS methodologies was utilised to determine the long-term impact of foreign debt on a number of important macroeconomic indicators. According to the co-integration findings, the variables have a long-term co-integration relationship. ED has a big and favourable influence on inflation, although there is a significant and negative influence on non-developmental spending in the long term. Similarly, the external debt servicing coefficient was shown to be large

and positive for non-developmental spending, gross domestic savings, and exports, but significant and negative for inflation. To achieve the intended consequences of external debt, it is necessary to monitor external debt payment and steer external debt toward development expenditures. Using-Grangercausality tests, cointegration tests, and error correction models.

Smitha Nath (2020), examines the link between exports, GDP and debt servicing for India between 1970 and 2018. GDP and exports appear to have no lasting effect in the bivariate model with constant trend specification. In contrast, a rise or fall in GDP growth has an impact on exports. The restricted constant trend definition of GDP has a positive and sizable effect on exports in the short to medium term. In the bivariate model, there seems to be a positive and substantial long-term link between GDP and debt service. According to the tri-variate model that incorporates these three factors, paying off debt and expanding exports have a long-term beneficial influence on GDP. An alteration in GDP is shown to trigger a alteration in exports in a long-term relationship with no fixed trend. However, a relationship seems to exist over the long run between them under the limited constant trend specification. Short-term GDP growth has a considerable impact on exports. Generally speaking, the data shows that GDP has a strong and beneficial influence on exports. When debt payment is employed as a measurement of international debt, a large and long-term beneficial influence on economic growth may be found. Debt payment and debt stock implications in the near run are, nevertheless, a broad and unimportant set of outcomes.

2.6 Summary

The review of the literature addressed a wide range of aspects of the external debt issue. The survey included research on the origins, consequences, and management of foreign debt, as well as studies on the long-term viability of external debt and its various dimensions. These studies were often conducted in the context of a developing country's economic situation. In the Indian context, just a few studies addressing a relatively narrow range of characteristics of the country's foreign debt crisis have been conducted. As a result of the above debate, several questions related to foreign debt and its consequences are raised, which serve as a background for an investigation into the influence of ED on economic growth in India and the viability of such expansion over the long run. But many issues related to the ED remains unaddressed.

Thus in this context, the current research, which takes into account previous findings and methods, aims to explain the potential causes of foreign indebtedness, its composition, ,magnitude, impact, and sustainability of external debt in India. In addition to these points, the research came to a conclusion with important suggestions that could help solve India's debt crisis.

CHAPTER 3

INDIAS EXTERNAL DEBT : ITS TREND, GROWTH, STRUCTURE AND COMPOSITION.

3.1 Introduction

The ED (External Debt) dynamics and its trends in India are examined in this chapter. External debt management is a major concern for all governments, and it should take steps to address this issue. Even though LDCs rely substantially on external financing, there is limited agreement among development economists regarding the actual link between external financing and economic development. Despite this, the post-World War II period saw a growth in LDCs' dependency on external financing, first slowly, and then more quickly, after the oil price shocks of 1974 and 1979. This pattern is somewhat different in the Indian setting. Indian participation in the external debt market was minimal throughout the post-independence era and until the late 1970s. No doubt, her inward-oriented growth plan, which included quantitative limits on international commerce and domestic output and curbs on foreign exchange mobility, limited her need for foreign capital to a modest level.

In the 1970s, when real interest rates were negative and emerging nations were keen to continue their growth process with external borrowing, India remained cautious and did not take advantage of the favourable circumstances in the capital markets. With a gradual increase in intensity beginning in 1984, India's development strategy switched from one focused on the inward to one focused on the external. It was believed that when the economy opened up, she would need a large amount of foreign cash to get started. India was forced to seek extra financing from the foreign loan markets since the availability of loans from government creditors was restricted. Although international financial markets were no longer favourable, the aggregate size and the load of India's ED expanded. Notable progress was made in the 1980s, which deteriorated the nation's immediate creditworthiness. In spite of this, India has maintained a spotless record since 1947 of paying its international debt commitments. In contrast to several Latin American nations, India has not used debt rescheduling to reduce its external debt.

All economies have a fluctuating economy throughout time, and India's predicament was no exception. The stance of the nation's international debt has rapidly changed during the 1990s. The BoP crisis of the 1990s dragged India into economic trouble. These difficulties were primarily caused by

the current account deficit's spillover impact of the government's unsustainable compounding budgetary deficits. India now has to deal with the unending issue of an unfavourable balance of payments because of variations in the country's fiscal and trade deficit. The Gulf crisis was a crucial factor throughout the complexity of the situation. All-time high current account deficits were recorded as a result of large import bills, weaker exports, and negative invisible growth during this crisis. Even a surplus capital account could not compensate for the current account deficit. There were so few foreign reserves in the BoP as a result of these events that India couldn't even cover its imports for three weeks. India's government had to use its gold holdings and commit them to the "International Monetary Fund" (IMF), seeking foreign borrowings under the expanded compensatory or contingency financing facility to promptly resolve the balance of payments situation.

Additionally, the government of India outlined a slew of steps aimed at resolving the BoP impasse. These include the adjustment of the exchange rate, the mobilisation of special finance, and the consolidation of fiscal policy. A lower exchange rate adjustment and the mobilisation of special funding were seen as possible ways to boost exports and generate more foreign reserves. Restrictions on some imports, a focus on import substitution, and a decrease in import spending were among other major steps adopted by the authorities to improve the balance of payment position. Structural reforms were also instituted by the governmental authorities in order to improve the economy's productivity and equality and to facilitate Indian exports. This included the establishment of a liberalised foreign investment policy as part of a newly developed industrial policy, the introduction of export promotion schemes, and the elimination of several restrictions as part of industrial sector reforms.

Therefore, an effort is made here to analyse whether or not external borrowing has ballooned in the Indian context and what component of external debt has been the driving factor behind it, and its various trends and composition. The period of study is 30 years, i.e., from 1990-2020. This chapter is arranged into three parts according to the mode of analysis. In the first part, we look at the International Debt Scenario , its overall trend and the rate of increase in ED. India's ED status is discussed in further depth in the succeeding section. The final part summarises the discoveries about India’s external debt.

3.2: External debt: A Transnational Analysis

The external debt dynamics of the world economy over time can be analysed by classifying them into debt waves that happened during different periods of time. The debt trap prevailed even during the 1970's. Here is an analysis of the different debt waves that swept the world economy from the 1970's to the recent debt outburst due to the epidemic.

The first debt accumulation period, 1970–1989.

Governments in Latin America, especially low-income nations, notably those in sub-Saharan Africa, were able to loan large sums of money at a period when real interest rates were at their lowest, resulting in a succession of financial disasters. The "Multilateral Debt Relief Initiative," the "Heavily Indebted Poor Countries Initiative," and the "Brady Plan" have all been put into action, but for many developing countries, this has been a decade of stasis in economic progress and poverty relief despite these efforts.

The second debt wave from 1990 to 2001.

As a consequence of a series of crises that happened in Europe, Asia, Central Asia, and the Pacific as a result of financial and capital market liberalisation, investor confidence decreased over the period 1997–2001. An extensive bank and corporate rescue effort was required to address private debt, but typically, help from the "World Bank" and the "International Monetary Fund" is necessary.

The third debt wave from 2002 to 2009.

The bank funding interruptions caused by the "global financial crisis" in 2007–09, private sector borrowing from EU-headquartered megabanks increased dramatically throughout Europe and central Asia, pushing several of these nations into recession. Once again, the international community and financial institutions were enlisted to assist in the debt-resolution process. There were a number of characteristics that were similar in the three historical cycles of debt. Low real interest rates, plus developments in the financial markets, were generally identified as contributing causes to their growth, according to the experts. The waves came to an end with global recessions (in 1982, 1991, and 2009), which were followed by broad financial crises (1998, 2001). Increases in risk premia or borrowing rates were swift, capital flows were suddenly curtailed, and large recessions were unleashed as a result. Typically, these crises are triggered by external factors. Financial disasters were often followed by policy measures aimed to reduce risks (such as increased reserve accumulation) and improved regulatory mechanisms, and this was especially true in the aftermath of the Great Depression. Following the global financial crisis, numerous developing nations enacted inflation targeting, more flexible currency rates, fiscal rules, and increased monitoring of the banking sector, among other measures.

Additionally, there were statistically significant changes between the first three waves of data. In response to the emergence of new financial instruments and actors, the financial instruments used to borrow altered. Initially, there was a rapid accumulation of emerging market government debt, which was followed by two waves of borrowing from private enterprise (during the Asian financial collapse, several corporations became quasi-sovereign.). The economic results of the financial crisis differed depending on the degree of the crisis and the location of the crisis. The first wave of debt buildup resulted in exceptionally severe and long-lasting production losses, which lasted for decades. The global financial crisis brought the third debt wave to a halt. However, it was less devastating in many nations than the previous two debt waves, owing to newer policy frameworks put in place following the first and second debt waves.

The fourth and the ongoing debt wave that began on 2010.

There has been a tremendous rise in private sector debt since the current debt tsunami that began back in 2010. Deficits in the public enterprise were magnified as a consequence of the 2014–15 commodities price fall. It's intriguing to see the similarities and differences between this and previous waves. A desire for yield by investors led to smaller spreads in developing nations before the epidemic, emulating previous precedents. Interest in local currency bonds and the growth of nonbank financial institutions are to blame for this development. As with past waves, the current wave's progress has resulted in a halt in economic growth.

It's not the same everywhere. Since 2010, the average annual rise in debt for this emerging group of countries has been roughly 7 percentage points of GDP. In contrast to previous waves, the fourth has been widespread, with over 80% of these nations increasing overall debt by at least 20% of GDP. This is the largest wave ever. Debt in low-income nations increased from 2010: 47 percent of GDP; 2019: 65 percent of GDP, according to the World Bank. Nonbank financial institutions seem to be less well-regulated and more vulnerable than banks, which have undergone considerable reform since the global financial crisis. Finally, some instability occurred during the current debt accumulation wave, but the COVID-19 epidemic caused widespread and severe financial duress. Economies with weak financial shock resistance also have escalating budgetary and current account deficits, as well as a tendency to take on more risky debt. Over fifty percent of the nation's national debt is currently owned by non-residents, up from 26% in 2010 and 43% in 2018. Almost two-thirds of the total public debt of low-income nations is non-concessional. After a decade of economic setbacks, the nation's debt load has ballooned, putting it in a precarious situation.

To put it another way, the pandemic has disrupted financial markets and is putting a strain on economies, institutions, and policies in developing countries. They're in a far more vulnerable position than they were in 2009, when the financial crisis first hit. They may be in the same financial straits that brought an end to previous cycles. For these reasons, it is even more critical that the current crisis, which is having a devastating effect on all sectors worldwide, and the lack of optimism for an immediate rebound, as well as rising anti-globalisation sentiment, be addressed.

3.2.1 The Tale of External Debt Crises Around the World

After defaulting on its loans to commercial banks and sovereign lenders in the summer of 1982, Mexico was the first country to institute a moratorium on debt repayment. Since then, the problem has simmered. Increasingly, governments, especially in Africa, are struggling to finance loans with foreign currency gains. Brazil was the first to halt interest payments to international creditors in 1987. Getting out of debt is nothing new. The UN Conference on Trade and Development said in 1967 that many impoverished countries' debt service payments had reached critical levels. In 2010, government creditors paid off $ 6 billion in debt to 45 disadvantaged nations. A World Bank study on Africa in 1984 recommended multi-year debt reduction and extended grace periods for African governments. Since 1987, subsequent G-7 meetings have granted progressively forgiving conditions, such as deferring debt payback deadlines. (Whenever a new set of terms and conditions were established, they were referred to as the G-7 conference location. Examples include the "Venice terms", "Toronto terms", and "London terms"). In the late 1980s and early 1990s, the World Bank and the IMF started granting exceptional merit programmes to African countries, enabling them to repay high-interest debt with low-interest debt, a kind of debt relief as genuine as partial cancellation. This new initiative by the World Bank and the IMF to help the world's poorest countries lower their debt loads is a continuation of prior efforts. Unbelievably, throughout the 1980s and 1990s, HIPC (Highly Indebted Poor Countries) maintained borrowing enough fresh money to more than balance previous obligations. From 1989 to 1997, $33 billion was allocated to debt relief for the 41 HIPCs, whereas $41 billion was allocated to further borrowing. In the late 1990s, the Jubilee 2000 movement began preaching debt forgiveness. There was already a large support for it. But Jubilee 2000 and other groups working for debt relief were able to bring more attention to the issue.

Credit relief under the HIPCs and "Multilateral Debt Reduction Initiative" (MDRI) will greatly lower the debt loads of impoverished nations. Official Development Assistance (ODA) grew to $23

billion in 2005 from $4 billion in 2004 owing to debt reduction funds. This was due to the Paris Club creditors releasing roughly $14 billion of Iraq's debt and over $5 billion of Nigeria's.
A commitment made 2002 in Monterrey contributors committed that debt decrease would never replace other components of ODA. It's impossible to evaluate donors' commitments without a clear counterfactual showing the amount of ODA that would have been paid without debt relief. The proportion of debt reduction in ODA rose from 3.7% in the 1990s to 6.6% in 2002, and then to 22.0% in 2005.Debt relief must have enhanced ODA compared to GNI in donor countries, although at a slower rate. So some, but not all, of the increased help is due to debt reduction.In 2005, debt relief accounted for 35% of bilateral ODA, far above the 1990s average of 53%. In 2005, two-thirds of bilateral ODA was supplied via grants for specific purposes.

The HIPC Initiative was expanded in 1999 to include more countries and to better connect debt forgiveness to poverty reduction activities. At present, the HIPC Initiative encompasses forty countries, 33 of which are in Africa. To date, 29 countries have achieved the "decision point" at which donors agree to offer the debt relief necessary to meet a debt ratio. By the end of 2004, the HIPC Initiative is expected to save the 29 countries that have reached the decision point $ 41 billion in debt reduction. Multilateral and formal bilateral creditors will offer most of the debt reduction. Commercial creditors had a small role.The HIPC Initiative and the Paris Club both provide debt relief, and bilaterally. Initially, the Paris Club only helped nations with transitory balance of payments issues by easing cash flow while retaining creditor claims' current value. The Club has been increasingly active in debt reduction measures during the last 15 years, both in debt flows and debt stock.

The MDRI was suggested by the G-8 Finance Ministers in June 2005 to assist impoverished nations with heavy debt to achieve the Millennium Growth Goals. The "Multilateral Debt Reduction Initiative" (MDRI) is a development of the HIPC Initiative. Having a public spending management system that satisfies minimal criteria for governance and transparency; implementing a poverty reduction plan. The Baker Initiative began in October 1985. Baker's "news" was the official US economic reform agenda. The Baker Plan foresaw policy changes in LDCs and fresh bank loans to support them, both leading to renewed development. These include debtor country adjustment plans, increased commercial bank financing to assist these policy measures, and ongoing IMF oversight and expanded multilateral development bank funding.

A similar outcome was achieved by the banks' net lending programme (BLP). To cope with the debt issue, Secretary Baker prolonged debt repayments, but he did not modify key beliefs about the best approach to pursue. The Baker Plan, like in 1982-1985, overestimated the bankruptcy situation facing many LDCs and offered no debt relief. Instead, the Baker proposal stressed deferred debt payments, additional loans, and a shift in debtor nation policy. A restoration to regular credit market access was anticipated under this policy.

The Baker proposal targeted 17 middle-income, severely indebted LDCs for international debt relief. For LDC debtor governments, the Baker Plan shifted the focus away from immediate balance of payments fixes to long-term structural transformation and economic development. A three-year increase in lending by multilateral development banks and commercial banks was suggested in the Baker Plan. Debtors agreed to liberalise trade and investment policies and privatise state-owned enterprises. These changes constitute a significant shift from Latin America's protectionist policy.

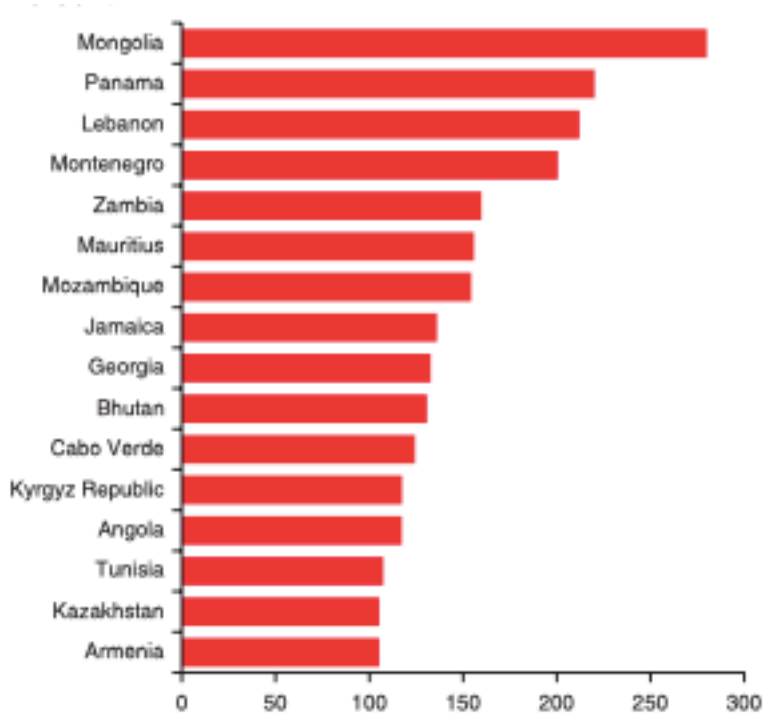
Despite its merits, the Baker Plan was derailed by unanticipated global economic shifts. Because worldwide oil prices fell immediately after the Baker Plan was published, oil-exporting debtor governments like Mexico were less motivated to pursue economic changes required for their recovery. The Baker Plan also failed to boost LDC economic development, and several LDC borrowers refused to meet IMF conditionality criteria (e.g., Brazil announced a debt moratorium in 1987).

Moreover, commercial banks wanted to limit their credit exposure, as lending risks shifted from private to public institutions. The Baker Plan also got less support than expected from international development institutions, and debt repayments started to outpace fresh loan funding. In summary, debtors had major economic issues throughout the Baker Plan because debt repayments outpaced fresh funding. Many debtors were locked in a vicious spiral where their debt loads hampered economic progress and sluggish growth prevented them from addressing their financial difficulties.

The Baker Plan advocated for broad economic changes, including stability, trade liberalisation, privatisation, and wider access to foreign direct investment, but ignored debt reduction programmes. Government austerity measures confirmed the Baker Plan's deficiencies.

Figure 3.1

Countries projecting a Debt-to-GDP Ratio of 100 Percent or More in 2020



Source: International Debt Statistics 2022

In March 1989, US Treasury Secretary Nicolas Brady approved the Brady Plan, which reduced or forgave certain LDC obligations to commercial banks. Brady's "news" was the official US debt reduction drive. The Brady Strategy was the first debt reduction plan. The Brady Plan requires banks to make new loans while reducing previous ones. After the G7 conference in July1989, the IMF approved the Brady Plan, and the G7 finance ministers became significantly more active in external debt concerns. This is because Mexico had the greatest debt, was liberalising its economy, had an excellent track record of adjustment, and was strategically significant to the United States.

The Brady Plan has 16 signatories. Uruguay and Venezuela are among them. Countries get the Brady Deal if they agree to economic changes that improve openness and productivity. So, debt reduction may boost stock values if it suggests future improvements. The Brady Plan asked for debt relief in addition to continuing the Baker Plan's improvements.To be eligible for the Brady Plan, a debtor must accept IMF and Bank criteria for liberal economic reforms.

Debt relief was acceptable policy response for a set of nations where the collective action issue really hampered profitable new lending. The main impediment to investment and development in HIPCs is not debt, but a lack of fundamental institutions and social infrastructure.

3.2.2 The current trend of global debt scenario

Low- and middle-income nations were confronted with new problems as a result of the COVID-19 epidemic. Before the commencement of the crisis, several countries were already concerned about the growing amounts of public debt as well as the increasing vulnerability of their economies to debt crises. In 2020, the severity of these vulnerabilities will rise considerably. The crisis increased the demand for funding and, as a result, the amount of public borrowing, while simultaneously undermining the economic foundations of individual nations and their capacity to pay back government debt. Several countries may emerge from the current COVID-19 situation with a massive debt overhang that will take a long time to resolve, according to the available data. By 2020, low- and middle-income nations will have accumulated a staggering amount of foreign debtwill have increased by an average of 5.6 percent to $8.7 trillion, according to the World Bank.

Table 3.1

Countries with highest Debt to GDP Ratio, October 2020.

Country	Japan	Sudan	Greece	Lebanon	Italy	Suriname	Portugal
Debt to GDP Ratio	266	259	205	172	162	145	137
Country	Cape Verde	Belize	Barbados	Singapore	USA	Bahrain	Aruba
Debt to GDP Ratio	137	135	134	131	131	127	127
Country	Spain	Mozambique	Bhutan	Angola	Zambia	France	Cyprus
Debt to GDP Ratio	123	121	121	120	120	119	118
Country	Maldives	Belgium	Canada	Antigua	UK	Congo	Brazil
Debt to GDP Ratio	118	118	115	114	108	105	101

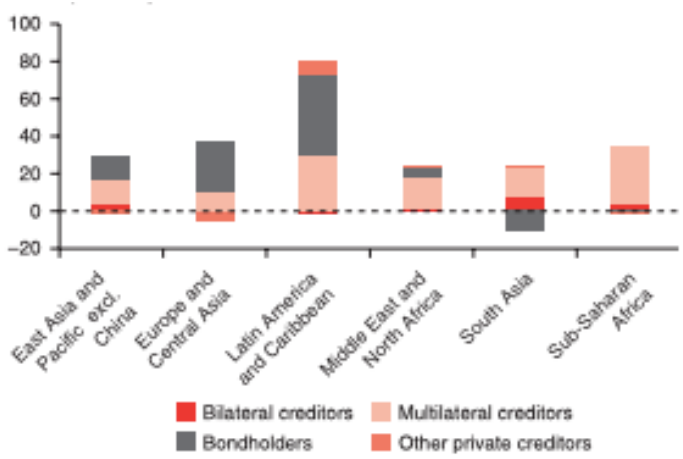
Source : International Debt Statistics, World Bank

Despite growth in the double digits in a number of countries, it was a significant one for others. The external debt stock of nations eligible for the Debt Service Suspension Initiative (DSSI) of the Twenty-member Group (G-20) increased by an average of 12 percent to $860 billion, with several countries seeing increases of 20 percent or more. The increase in foreign indebtedness did not keep pace with the increase in gross national income and exports in the majority of nations. A fundamental shift in the approach to debt disclosure is required in order to assist nations in assessing and managing their external debt risks, as well as working toward debt levels and terms that are sustainable. Some of the important features of the world debt scenario considering the recent World bank international debt statistics are as follows:

1. Net loan and equity inflows to low- and middle-income countries declined to $909 million in 2020. In 2019, net loan inflows grew 9% to $435 billion, whereas net equity inflows declined 15% to $473 billion. It was the worst year in a decade for FDI inflows, which declined 14% to $435 billion, and for portfolio equity inflows, which plunged 19% to In 2020, China will account for more than fifty percent of net financial flows (debt and equity) to low- and middle-income countries.
2. The cumulative ED stock of poor and middle-income countries reached $8.7 trillion by the end of 2020.Least-developed nations' external debt increased 5.3 percent in 2020 to $8.7 trillion. In 2020, the pace of accumulation was similar to 2018 and 2019, but below the yearly average of 8% from 2011 to 2017. This indicates a slower buildup of foreign private

Figure 3.2

Long-Term Debt Inflows to Public and Publicly Guaranteed Borrowers by Regions, 2020



Source:International Debt Statistics 2022

non-guaranteed debt stocks, 3.3 percent in 2018–2020 vs 8.6 percent in 2011–2017.The increase in foreign debt stocks in 2020 was attributed to $435 billion in net debt inflows and year-over-year exchange rate changes.

3. According to the DRS, 123 low and middle income nations issued $457 billion in new bonds in 2020, a 14% increase over 2019. In 2020, China issued over half (48%) of all bonds.
4. In low- and middle-income nations excluding China, the average ratio of debt to GNI rose to 42 percent in 2020 (from 37 percent in 2019), while the debt-to-export ratio jumped to an average of 154 percent in 2020 (from 114 percent in 2019). (126 percent in 2019). The deterioration of debt indicators was pervasive, affecting nations throughout the globe and across all geographic areas.
5. Over the previous decade, debt indices in nations qualifying for the DSSI have deteriorated dramatically. As of 2020, only 44% of DSSI-eligible countries have a debt-to-GDP ratio of 60% or less, while 7% of DSSI-eligible nations have a debt-to-GDP ratio more than 100%.In 2020, the debt-to-export ratio of DSSI qualifying nations was more than 250 percent, with 21 percent having a higher ratio.

Table 3.2:

Aggregate Net Financial Flows to Low- and Middle-income Countries, 2011–2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Net financial flows, debt and equity	1,324.9	1,223.8	1,457.7	1,136.3	207.6	721.0	1,289.9	1,108.2	953.8	908.6
Percent of GNI (%)	5.7	5.0	5.6	4.2	0.8	2.8	4.5	3.7	3.1	3.0
Net debt inflows	717.2	587.7	814.8	539.8	−316.1	208.4	755.4	574.5	400.1	435.4
Long-term	405.0	468.5	447.6	394.7	171.6	243.3	433.4	352.4	372.3	419.4
Official creditors	39.1	34.3	30.7	47.8	49.2	62.3	56.2	81.3	64.0	128.6
World Bank (IBRD and IDA)	6.4	12.0	14.1	15.1	17.6	13.5	13.1	14.7	19.1	27.2
IMF	0.5	−8.4	−17.7	−7.2	4.8	5.0	3.6	30.9	21.6	46.5
Private creditors	365.9	434.2	416.8	346.9	122.4	181.0	377.2	271.1	308.3	290.8
Bonds	150.5	225.7	172.7	174.8	74.9	120.1	289.1	203.6	255.2	280.1
Banks and other private	215.4	208.6	244.2	172.1	47.5	60.9	88.1	67.5	53.1	10.7
Short-term	312.2	119.1	367.2	145.1	−487.7	−34.9	322.0	222.2	27.8	16.0
Net equity flows	607.6	636.1	642.9	596.5	523.6	512.6	534.5	533.6	553.7	473.2
Net foreign direct investment inflows	603.8	538.8	572.8	512.7	502.4	467.9	467.7	496.5	505.7	434.5
Net portfolio equity inflows	3.8	97.4	70.1	83.8	21.2	44.7	66.7	37.2	48.0	38.7
Change in reserves (− = increase)	−457.4	−284.1	−523.3	96.9	607.1	274.9	−313.5	84.1	−189.3	−330.4
Memorandum item										
Workers' remittances	337.2	362.8	384.0	414.8	416.9	408.0	444.2	481.9	501.7	499.5

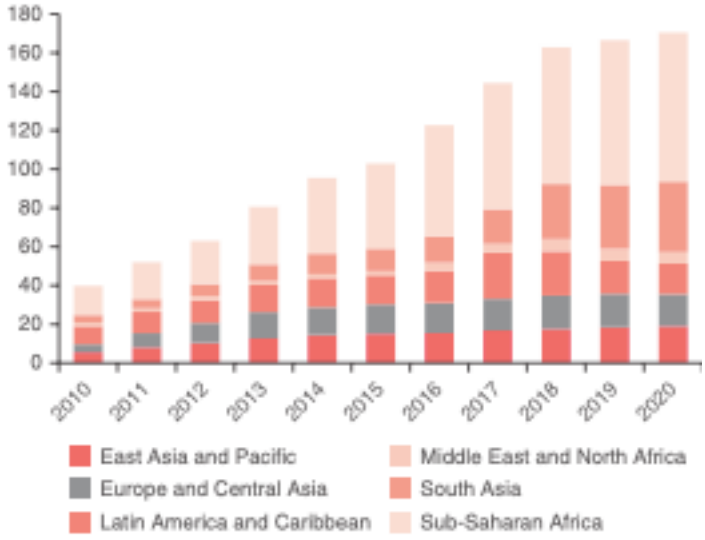
Source:International Debt Statistics 2022

It is estimated that the epidemic had a major influence on international direct expenditure (FDI) flows. Existing investment projects have been stalled by lockdowns throughout the world, and the fear of a worldwide downturn has discouraged shareholders and prompted massive corporations to reevaluate the viability of fresh investments. The most severe contraction occurred in developed nations, but the slump affected the whole world. Inflows of "Foreign Direct Investment" (FDI) into poor- and middle-income nations combined declined by an average of 14 percent by 2020 reaching $435 billion, the least amount in over a decade. From 2015 to 2020, FDI inflows into "low- and middle-income countries", excluding China, dropped by 23%. In 2020, portfolio equity investments continued to favour China and India, despite the fact that total portfolio equity inflows decreased 19 percent from their levels in 2019.

During the last decade, China's creditors and investors received around 60% of all net aggregate financial flows from international creditors and investors to low and medium income nations. As per World Bank, during this time period, China received around $4 trillion in inflows, of which 40% were debt-creating flows and 60% were foreign direct investment and portfolio stock flows. Net loan inflows climbed by 62% to $233 billion in 2020, while net equity inflows increased by 11% to the same level. This contributed to a 32% rise in total financial flows to China, which totaled $466 billion.

Figure 3.3

Low- and Middle-Income Countries' Debt to China.



Source:InternationalDebt Statistics 2022

The quick growth in foreign ownership of Chinese yuan bonds in 2020 is indicative of China's strong measures to liberalise its financial accounts and of the country's speedy recovery from the COVID-19 outbreak.

Since the opening of China's onshore bond market to international investors in 2016, non-resident involvement in the market has increased gradually. Non-residents' holdings of Chinese bonds reached over $635 billion by the end of 2020, accounting for approximately 58 % of China's long-runED. At the end of 2020, the aggregate debt of poor- and middle-income nations to China was $170 billion, more than three times the amount of debt at the same time in 2011. To put this number in perspective, the total commitments of poor-and centeral-income countries to the "International Bank for Reconstruction and Development" were $204 B at the end of 2020, while their combined obligations to the International Development Association were $177 billion. China is liable for the majority of the debt it owes because of large scale construction projects and activities in the extractive industries. Sub-Saharan African nations,led by Angola, have had one of the largest rises in Chinese debt since 2018, despite the fact that the pace of accumulation has slowed. By the end of 2020, the region was accountable for 45 percent of China's obligations.

Table 3.3

Decadal Growth rate of External Debt upto 2000

Year	1970-80	1980-90	1990-00
Growth Rate of Debt	10.1	23.1	12.1

Source : World Bank Debt Tables, Various Issues

3.2.3 Measures to be adopted to tackle Global debt scenario

Earlier deficit tsunami has shown that policy decisions play a significant role in influencing the consequences of debt waves. Although macroeconomic crisis was usually sparked by foreign shocks, the effect on separate economies were greatly based on internal national policies and determinations. In the end, the conditions of a nation determine the specific policy goals. In this regard the following measures can be adopted to enhance debt levels of global economies from debt ridden to sustainably debt managed economies.

- For governments to be able to repay today's debt tomorrow, they must have sound debt management and transparent borrowing costs in place. This guarantees that borrowing costs are contained, debt sustainability is restored, and fiscal risks are minimised to the greatest extent feasible.. Providing assistance to fiscal finance via frameworks that ensure a stable

monetary policy may help to increase investor confidence. Promoting consistent norms for creditors, especially international financial institutions, might be a good measure to start.

- Even with a large-scale fiscal stimulus, money must be used carefully in government to avoid another Great Recession. It wasn't until after the incident that it was discovered that the borrowed money had been used for activities that had not resulted in improved export revenues, productivity, or potential production in past crises. To prevent debt overhangs from pulling down investment for a lengthy period of time, especially in light of the massive economic upheaval that has happened in the current global economy, robust bankruptcy procedures are essential.
- Proactive financial sector regulation and supervision may benefit policymakers in identifying and responding to emerging dangers in the financial sector, although a temporary regulatory easing is suitable in the present scenario. A highly developed financial sector may facilitate the mobilisation of domestic savings, which may be a more reliable source of financing than foreign borrowing.
- In an extremely volatile global economic environment, strong macroeconomic policies may be able to safeguard the capacity of emerging markets and developing nations to adapt. However, flexible exchange rates have the capacity to offset some of the short-term economic effects on the local economy; in the long run, flexible exchange rates have the potential to avoid severe balance sheet mismatches and enormous exchange rate misalignments.In view of the present financial challenges, it is necessary to revise revenue and expenditure policies in order to dedicate more funding to health care and aid for vulnerable populations. During a crisis, it may be necessary to use fiscal laws' escape provisions; yet, it is these standards that will aid in the restoration of financial sustainability once the recovery process has begun. Having fiscal laws and processes in place to guarantee the full unwinding of stimulus and a return to budgetary sustainability will be crucial once the recovery has begun.

Time will tell, of course, whether the present global debt bubble will lead to a string of financial calamities like those that have happened before.Even the strong economies would be challenged by the nature and intensity of the epidemic. The need for international cooperation and help is higher now than it has ever been throughout human history. However, in order to prevent another financial disaster, we must remember the most important lesson learned from previous debt waves: good domestic policies are essential.

3.3 External debt Scenario in India

In the 1970s, external finance in India was mostly comprised of foreign assistance, much of it was supplied on a concessionary basis, and other sources. Throughout the 1980s, external debt on commercial terms was required as a consequence of global events such as a reduction in the availability of official flows. During that time span, the monetary value of annual increases averaged 15 percent every year on average (1980-90). Since 1985 to 1990 (1985-90), The total amount of foreign debt has been growing at a pace of 18% per year on average, according to the World Bank. The unrestrained expansion that had characterised the decade came to an end with the financial crisis of 1991.

Until the 1970s, India was mostly reliant on loans from state creditors, which were granted on concessional conditions. In the 1980s, there was a significant change in the way we borrowed money. In 1986, short-term debt, which had been a tiny component of the country's external debt in the 1970s, accounted for 6.8 percent of the total. For the most part, the growth in short-term debt may be attributed to a mix of increased borrowing on the financial markets and decreased bilateral lending. Bonds from non-resident Indians and syndicated loans were also available at reasonable interest rates during the financial crisis, complementing the funding options provided by export-import agencies. In 1990, the short-term debt reached 10% of the overall external debt portfolio. Later, the short-term loan stock's share of total external debt stock continued to decrease until 1997. To help pay for imports of crude oil, petroleum products, and fertilisers, public sector canalising agencies took on a substantial amount of short-run debt in the 1980s.

The refinancing or rollover risks that borrowers face when they have a large amount of this kind of debt put the country's balance of payments at danger. For example, when the foreign capital market is constrained and refinancing possibilities are difficult, this is particularly true. The government's failure to repay around $5 billion in short-term debt was a major factor in the crisis of 1991. For this reason, the rapid rise in short-run debt in the 1980s seems to have been a contributing factor in the 1991 balance of payments liquidity crisis.

India's economy was thrown into disarray during the 1990s “Balance of Payment” (BoP) crisis. As a result of unsustainable cumulative budget deficits and current account deficit spillover, these challenges emerged. Due to changes in the fiscal and existing account deficits, India has been afflicted by an unfavorable BOP. The gulf recession was a major contributor the crisis's severity. Imports

rose sharply, while exports dropped precipitously, resulting in a record-high current account deficit for the nation. In order to fund the current account deficit, a surplus capital account had to be created. Foreign reserves plummeted to a point that India could only cover its imports for three weeks after these modifications in the BOP were implemented.

In order to improve India's balance of payments (BOP) condition immediately, the GoI had to withdraw its gold reserves and commit them to the IMF for external funding in accordance with the amended compensating and contingency financing arrangement. In addition to these initiatives, the Indian government revealed other steps to ameliorate conditions at the bottom of the pyramid (BoP).Adjustments to the exchange rate, exceptional financial mobilisation, fiscal rectification, and consolidation are only some of the options. Lowering the exchange rate and mobilising special financing were seen as a way to stimulate exports and produce greater foreign reserves. Import restrictions, an emphasis on import substitution, and a reduction in import-related expenditure were among the other measures taken by the government enhance the nation's balance of payments.

The government has undertaken structural adjustments with the purpose of improving the economy's efficiency and competitiveness, as well as promoting exports. The government enacted a liberalised foreign investment policy, a liberalised foreign trade policy, launched export promotion programmes, and removed numerous restrictions in the industrial sector as part of the new industrial strategy. The government used import reduction, export promotion, and the mobilisation of external funding to improve the BoP account in the near term, in order to fulfil the target growth rate.If there is a vacuum in the economy, economic theory implies that foreign resources may be used to fill the void and attain the required growth rate. External finance was received at low rates from international financial institutions as well as bilateral loans on the international market.

A considerable amount of foreign debt, if used appropriately, may offer favourable economic indicators and play a significant role in the growth of a nation’s process, since rising countries are commonly recognised to having more investment opportunities and growth potential. The consequences, on the other hand, will be different if the external debt is not productive. If foreign loans are used to assist projects that do not generate a profit higher than the cost of the loan, they are called inefficient. Excessive foreign borrowing has a lot of negative repercussions. Debt overhang, loan interest payments, debt crises, and macroeconomic instability are among them. External debt management was created to reduce the negative consequences of excessive external borrowing and

to ensure that external borrowings are productive. Managing ED is ancrucial component of managing both payments balances or macroeconomics since it is so closely linked to macroeconomic variables including exchange rates, price levels, production, and aggregate demand. Because of the influence they have on borrowing demands, borrowing capacity, and debt service capacity. The major purpose of external debt management strategy is to avoid triggering significant macroeconomic and balance of payments problems while still benefiting from foreign finance. Here is an analysis of External debt trends in India , its composition and management.

3.3.1. Trend of External Debt in India.

Indian economy has amassed a massive amount of external debt since 1991. According to data collected in 1991-92, the country's external debt was $83801. By the end of March 2020, it had grown to $558569 million. The BoP crisis was precipitated by recurring current account shortfalls, which increased the economy's borrowing requirements, was blamed for the high level of gross External debt reported by India in 1990-91. External debt grew as a consequence of unfavourableBoP, persistent existing account deficits, and exchange rate fluctuations. The Indian government initially turned to external finance; subsequently, to address the long-term balance of payment issue, it began the process of reforms in a step-by-step manner.

From 1990-91 to 1994-95 there was a significant rise in the percent share of international, bilateral, IMF, export credit, and ECB loans in total ED, while the percent share of rupee and short-run loans in total loans decreased. The percent share of NRI deposits in total ED did not change significantly during this time frame. The data shows that despite rising external debt, most indices of a country's financial health suggest that the country's debt situation is improving. The government's initiatives, examplelikerestricting short-run debt, focusing on exports, and restraining debt-creating flows, accounted for this change.The external debt volume climbed from US$ 93730 million to US$ 111645 million between 1995-96 and 2003-04, mostly due to a spike in NRI deposits and private loans. The Government's policy changes have been blamed for the rise of NRI deposits and private debt.

Table 3.4

External Debt Growth Rate From 1990-91 to 2019-2020(In US $ Million).

Year	External Debt (US$ Million)	Growth Rate	Year	External Debt (US$ Million)	Growth Rate
1990-91	83801	_	2005-06	138133	3.88
1991-92	85285	1.77	2006-07	172360	24.78
1992-93	90023	5.56	2007-08	224407	30.20
1993-94	92695	2.97	2008-09	224498	0.04
1994-95	99008	6.81	2009-10	260935	16.23
1995-96	93730	-5.33	2010-11	305861	17.22
1996-97	93470	-0.28	2011-12	360766	17.95
1997-98	93531	0.07	2012-13	409464	13.50
1998-99	96886	3.59	2013-14	446178	8.97
1999-00	98263	1.42	2014-15	474675	6.39
2000-01	101326	3.12	2015-16	484989	2.17
2001-02	98843	-2.45	2016-17	471852	-2.71
2002-03	104914	6.14	2017-18	529366	12.19
2003-04	111645	6.42	2018-19	543126	2.60
2004-05	132973	19.10	2019-20	558569	2.84

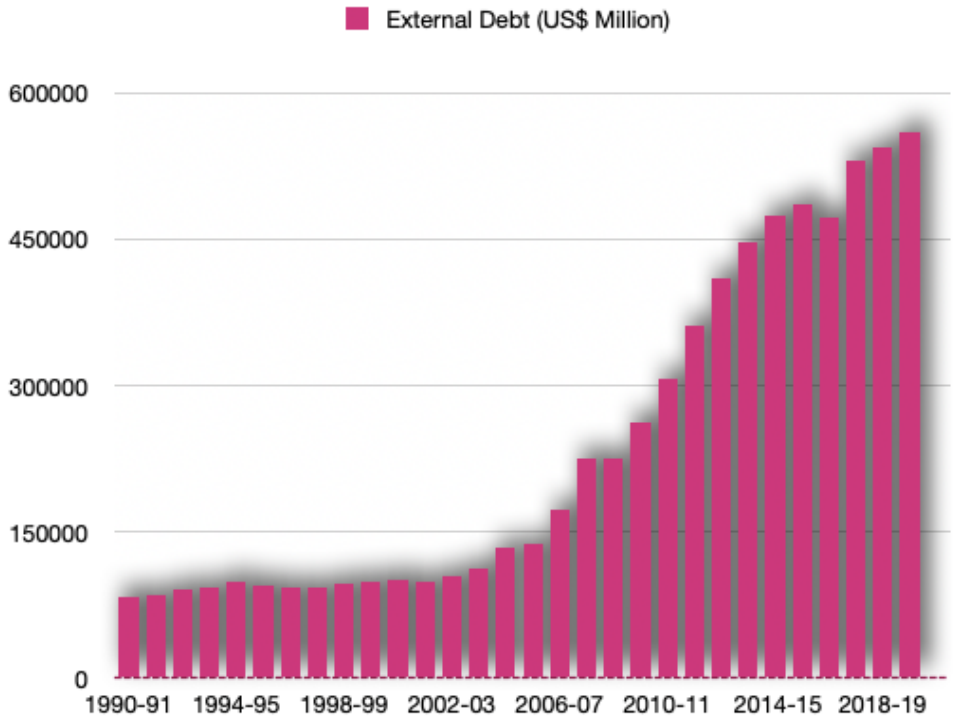
Source : RBI Database

Foreign currency reserves in repatriable bank accounts were the primary goal of the previous NRI deposit policy, which was implemented in the early 2000s. A guarantee of exchange rates and higher interest rates were offered by the government for this reason. Interest payments from repatriable accounts were reduced by streamlining and rationalising the process. To mobilise foreign reserves, the Government of India approved in 1998-2000 State Bank of India (SBI) to establish India Millennium Deposits (IMD), Resurgent Indian Bonds (RIB), and India Development Bonds programmes. (Ministry of Finance, 2000) As a consequence, India's gross external debt has increased in proportion to private debt.

According to the percentage of multilateral debt, bilateral debt, the IMF's debt, export credit, and rupee debt in total debt from 1995-96 to 2003-04, the percentage of ECB's NRI deposits and short-run debt in total debt increased. Indicators of loan health, include the debt-to-GDP ratio and the narrow debt-to-GDP ratio, for instance, also showed improvement throughout this time period. As a percentage of total ED, the foreign reserve position improved steadily. Sound debt management strategy, which concentrated on rationalising interest rates on NRI deposits, was credited for improving debt indicators during this time period.

Figure 3.4

Trend of External Debt Growth Rate in India From 1990-91 to 2019-2020.



Source : RBI Database

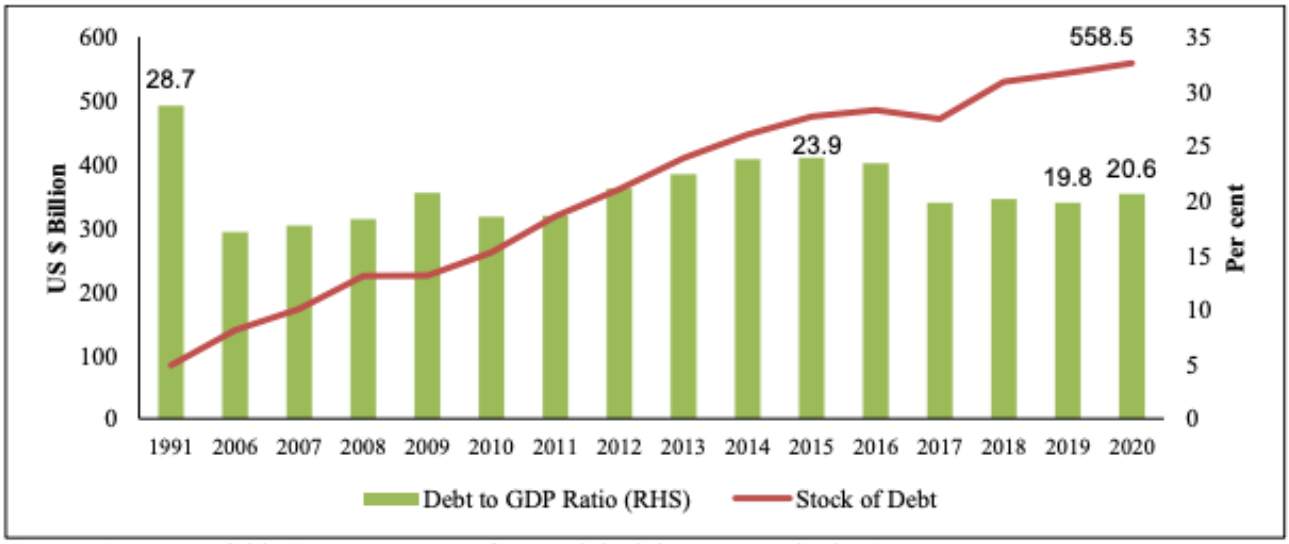
At US$ 132973 million in 2004-05, the gross external debt jumped swiftly to US$ 172360 million in 2006-07. ECBs and currency exchange rate fluctuations were to blame for this time around. The huge redemption of bonds, especially the India Millennium Deposit, caused a spike in ECBs during this time period (Ministry of Finance, 2007). Multilateral debt, bilateral debt, NRI deposits, and rupee debt as a percentage of overall debt decreased during this time period. Total debt 38 showed an increase in ECB and short-term loans, but IMF and export credit as % of total external debt remained unchanged. The country's external debt metrics also showed a steady improvement.

Once again, changes in foreign exchange price (the dollar's decline against key currencies) and ED rose from US$ 224.407 billion in 2007-08 to US$ 30.558 billion in 2010-11 as a result of increased ECB payments and NRI deposits. The widening of the interest rate gap between the local and overseas markets is largely to blame for the rise in ECB and NRI deposits. NRI deposits have also risen as a result of interest rate arbitrage by NRIs who choose to keep their money in Indian banks. During this time, the percentage of multilateral debt, IMF debt, NRI deposits, and rupee debt in

overall debt fell. There was a rise in the percentage of ECBs in total ED, bilateral debt, and export credit as a percentage of export credit. The external debt indicators were still improving during this period. Sustainability, solvency, and liquidity were the main principles of debt management strategy that yielded this positive outcome.

Figure 3.5

External Debt and GDP In India.

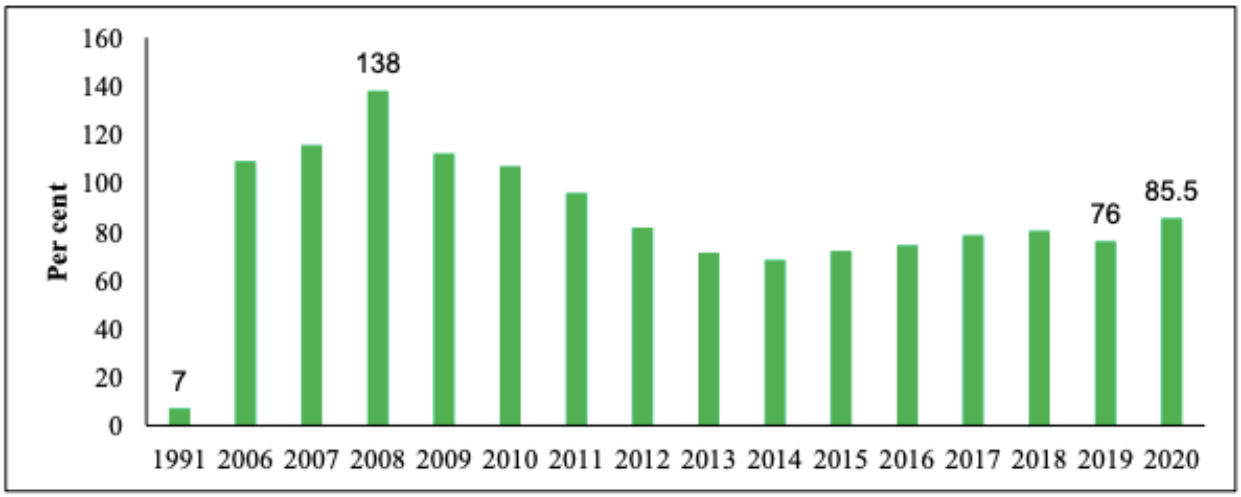


Source :External Debt Status Report (2019-20), Ministry of Finance, Govt. of India

Commercial bank loans and securitized borrowings were blamed for driving up ECBs, while Reserve Bank of India's swap programmecaused an increase in non-resident Indian (NRI) deposits in "Foreign Currency Non-Resident Bank" (FCNR-B) accounts. In terms of external debt indicators, the percentage of ECBs and NRI deposits in total foreign debt climbed, while the percentages of multilateral debt, bilateral debt, IMF debt, export credit, short term debt, and rupee debt declined. Due to a government strategy of expanding exports and current account intangibles, as well as promoting non-debt flows of foreign investment, key external debt indicators improved throughout the period.

Figure 3.6

Ratio of External Debt to Foreign Exchange Reserves



Source :External Debt Status Report (2019-20), Ministry of Finance, Govt. of India

The trend of ED from 2017-20 can be analysed with a ray of hope , as End-March 2017 saw a small decrease in the level of external debt as a consequence of the global economic slowdown and the resulting reduction in ECBs and NRI deposits. NRI deposits and ECBs fell significantly in 2016-17. NRI deposits were down 7.93% from the previous year (about 24.8 percent of total external debt), while ECB deposits were down 4.24 percent (about 36.7 percent of total external debt) throughout this year. India's indebtedness situation improved this year as a result of strong policies and thorough monitoring for managing the country's ED. India's foreign debt increased 2.8% to $ 558.5 billion by March 2020. The ED to GDP ratio increased from 19.8% in March 2019 to 20.6 % in March 2020. At the end of March 2020, the percentage of foreign currency reserves to ED was 85,5 percent, up from 76.0 percent the year before. At $100.9 billion, sovereign debt decreased 3 percent annually. Investments by FII in G-Sec, the second-largest member, decreased by 23.3% to $21.6 billion from $ 28.3 billion a year before. The value of external assistance loans from multilateral and bilateral sources increased by 4.9% to $87.2 billion. Non-sovereign debt increased by 4.2% to $457.7 billion, driven mostly by a 6.7% increase in commercial borrowings, the largest component, to $220.30 billion.

The majority of the foreign debt is long-term (more than one year) commercial borrowings, while the remaining 19 percent is short-term trade credit. Over ninety-five percent of all short-term debt is comprised of trade credit. Since short-term credit expands when growth accelerates and vice versa, the pro-cyclical nature of short-term debt enhances external stability. As the Indian economy wors-

ened, imports decreased 7.8 percent in 2019-20. Therefore, at the end of March 2020, short-term trade credit had decreased by 1% to $101.4 billion. At the end of March 2020, 53.7% of India's total foreign debt was denominated in dollars, making it the dominant foreign currency. The indications of debt vulnerability remained steady. At the end of March 2020, the debt service ratio (principal plus interest) was 6,5% of current revenues, up from 6,4% the previous year. In addition, it is anticipated that the external debt service payments on the current debt stock would peak in 2024-25 at approximately US$ 10 billion each quarter, before declining.

In summary, it is envisaged that India's foreign indebtedness would continue to consolidate. A glimmer of optimism may be found in the numbers. India is no exception to the trend of accumulating foreign debt as the economy grows because of a lack of local savings. The strategy of allowing the private sector to access international loans for many years has had an impact on India's external debt buildup. As a result, when India's economy grows, the amount of foreign debt will rise. However, the low amount of debt vulnerability seems to be reason for little alarm. More crucially, increased local savings would offset the need to borrow foreign debt. Growing growth would increase foreign debt levels, while increasing savings would mitigate this increase.

3.3.2. Composition of External Debt in India.

External debt in India can be categorised and analysed by sector, creditor, debtor, currency, instrument and concessionality. These classifications were devised to aid in the comprehension of the growth and composition of foreign debt. The sector wise classification aids in analysing the portion of debt held by the government and non government sector. The creditor-wise classification enables an understanding of the different sources of foreign debt, such as multilateral, bilateral, and the IMF; the borrower-wise classification is generated to segment data on India's foreign debt load which analyses the major players that have availed the external debt in India. External debt data are compiled and disseminated in accordance with the IMF's 2013 EDS Guide , followed in a number of developed and developing market nations, including Brazil, Chile, China, Malaysia, the Philippines, South Africa, Thailand, and the United States. This supplementary format categorises India's foreign debt by debtor sectors, instruments, and maturities.Short-period and long-period debt are subdivided further by division-specific instruments such as loans, debt securities, currencies and deposits, lines of credit and advances, special drawing rights and other debt obligations. The instrument-by-instrument categorization indicates which debt instruments were used to obtain the debt. These instruments include, but are not limited to, bonds, loans, ECBs, NRI deposits, and ex-

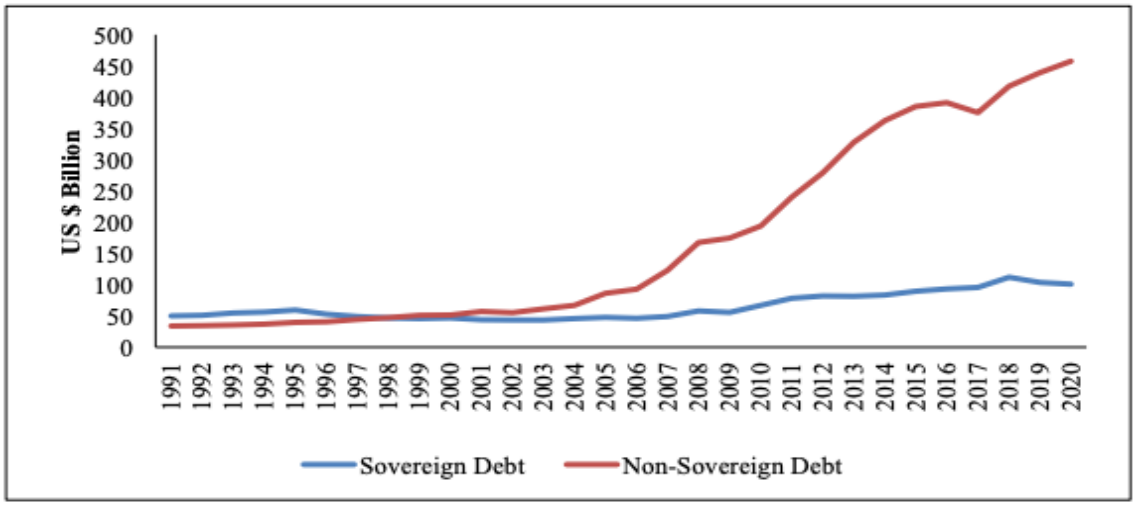
port credit. This categorization aids in comprehending the level of foreign debt by instrument. The currency-by-currency breakdown illustrates the denominations of different currencies in the total foreign debt. Because these currencies are pegged to exchange rates, changes in exchange rates have a direct effect on the size of a nation's foreign debt. Below a brief examination of the composition of India's foreign debt according to several criteria. External debt is also analysed on the basis of maturity and concessionally which implies the burden of debt and its sustainability. All these components are discussed in detail as follows.

A. Sector wise classification of External Debt

India has two categories of foreign debt: sovereign debt and non-sovereign debt. Sovereign debt includes (i) The government's ED, which includes loans received under India's "external assistance" programme and Rupee loan owed by citizens; (ii) all other government loan, including Adaptations from the International Monetary Fund (IMF), defence loan owed in Rupees and in foreign currencies, as well as FII investments in government securities (G-Securities). Non-sovereign debt encompasses all other forms of foreign debt that are not owned by the government. The proportion of non-sovereign debt has steadily risen over the last several years as a result of changes aimed by allowing the private sector to issue debt outside of the country , mainly due the Economic Reforms of 1990's.

Figure 3.7

Sovereign and Non Sovereign Composition of External Debt in India(In US $ Million).



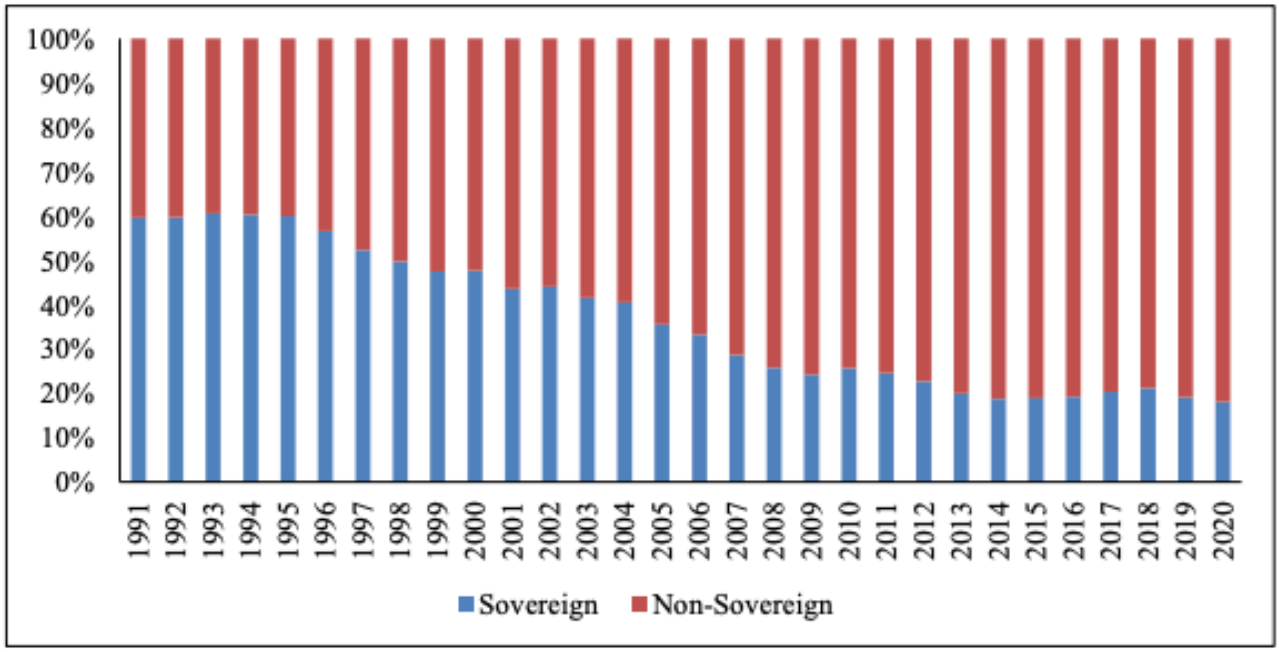
Source : External Debt Status Report, Ministry of Finance, Govt. of India

The enhanced access to international technology and foreign funding, the industrial sector was compelled to modernise in the 1990s, when the reform and liberalisation movement gained pace.

Non-sovereign foreign debt increased from US $ 34 billion at the end of March 1991 to US $ 53 billion at the end of March 2000 and is projected to increase to US $ 458 billion by the end of March 2020 as a consequence of these and other reasons. In contrast, the foreign debt held by sovereign governments is not growing at a very high rate. It may become as large as the situation calls for. Figure 3.8 shows that beginning at the end of March 1991, the share of non-sovereign foreign debt in total ED has increased from 41% to 52% in 2000, and is projected to reach 82% by the end of March 2020.

Figure 3.8

Sovereign and Non Sovereign share of External Debt in India.



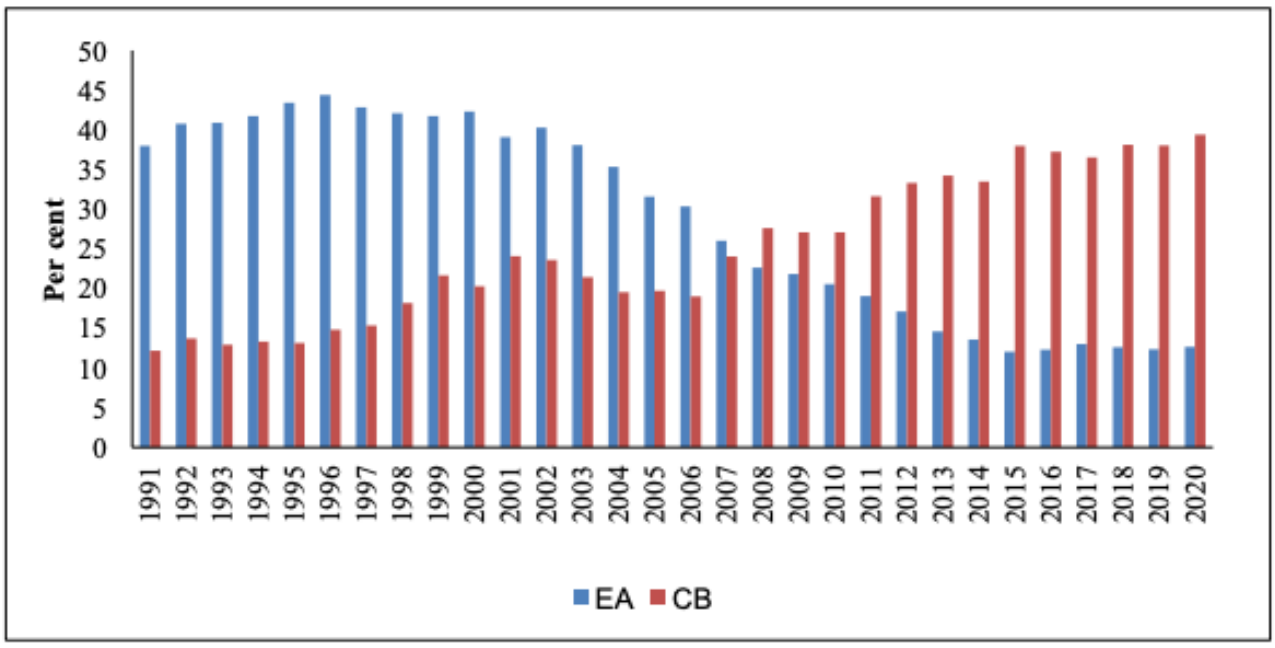
Source :External Debt Status Report (2019-20), Ministry of Finance, Govt. of India

The accompanying chart clearly displays the shift in the composition of India's foreign debt away from the government sector and toward the non-government sector. This shift was made possible by a combination of factors, including the prepayment of high-cost non-concessional multilateral and bilateral loans in the first half of the 2000s and a significant reduction in the proportion of concessional loans from multilateral and bilateral sources under the External Assistance Programme.Liberalisation of ECB policies was also a factor in this transformation. As the figure highlights the current trend of external debt is dominated majorly by the non government sources.

The financial sector's portion of total external debt climbed from 22 percent at the end of March 1998 to 35 percent by the end of March 2020. To put it another way, the non-financial private sector's portion of total external debt has grown from 13% in March 1998 to 22% in March 2020. During the post-global financial crisis period, foreign debt accumulated at an accelerated rate. Non-financial public sector debt, on the other hand, fell from 10 percent of total external debt at the end of March 1998 to 6 percent by the end of March 2020.

Figure 3.9

Share of External Assistance (EA) and Commercial Borrowings (CB) in External Debt in India

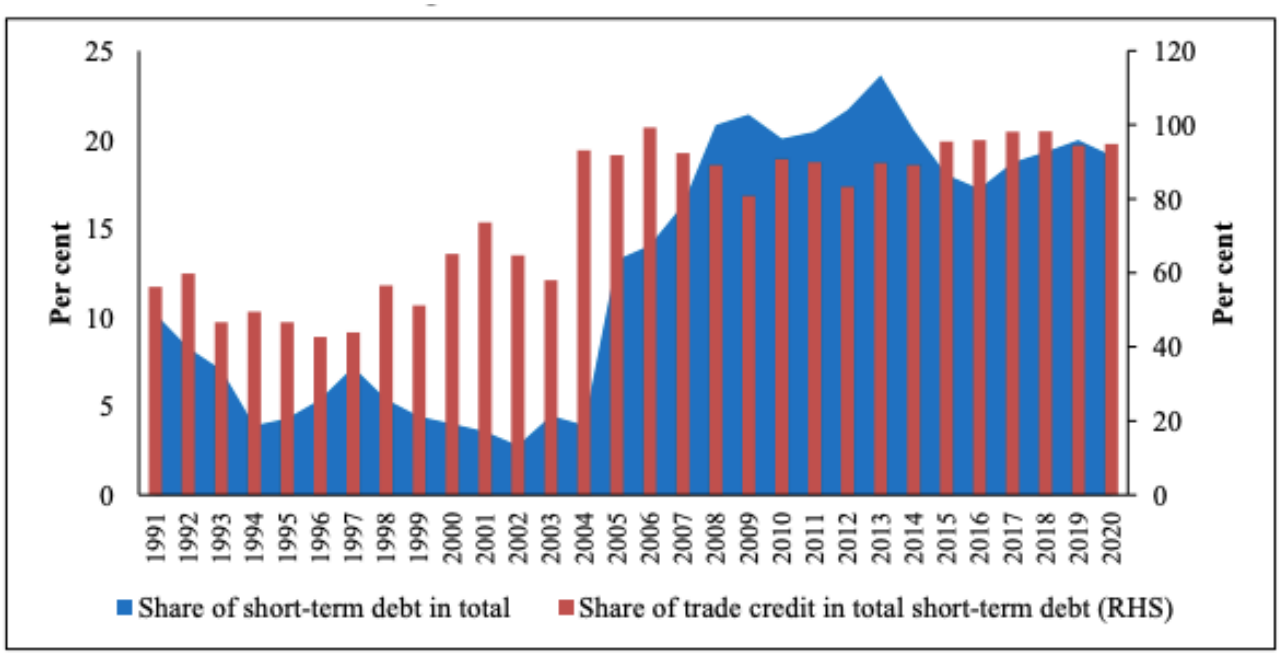


Source :External Debt Status Report (2019-20), Ministry of Finance, Govt. of India

Prior to 1991, public sector canalising agencies borrowed the majority of short-term debt to finance the import of petroleum, petroleum products, and fertilisers. During the 1980s, this kind of short-term loan accounted for around 10% of total foreign debt. A "Balance of Payments" crisis in 1991 and subsequent careful external debt management practises resulted in a decrease in the importance of short-run foreign investment. As a consequence, short-run debt as a percentage of overall debt decreased throughout the 1990s. Narrow debt rose again in the private and public sectors as import growth accelerated in the mid-2000s; trade credit accounted for the vast bulk of this debt. (Figure 3.10).

Figure 3.10

Share of Short-term Credit in External Debt in India



As a result of all these, the percentage of government debt in the overall foreign debt has decreased throughout the years, reduced reliance on international and bilateral assistance sources. Increases in private sector debt have been seen, mostly due to growing commercial loans acquired by the private sector. Since the mid-2000s, the amount of short-term debt, particularly trade credit, has increased dramatically.

B. Creditor - Wise Classification of External Debt

The following are the major components of credit wise classification of India's ED. Following is a detailed explanation of each component:

- **Multilateral Debt**

  The World Bank, regional development banks, and other multilateral and intergovernmental organisations provide public and widely endorsed multilateral loans. Exceptions to this rule include loans from international organisations handled on behalf of a single donor country. Debt owed by a foreign country to international financial organisations like the World Bank and the International Monetary Fund (IMF) is known as multilateral debt..The International

Development Association (IDA), the International Bank for Reconstruction and Development (IBRD), and the Asian Development Bank (ADB) are all multilateral creditors.

- **Bilateral Debt**

  In a bilateral debt, just one borrower and one lender are involved. Due to the fact that only two parties are involved in a bilateral loan arrangement, they are referred to as such. One party will offer a specified amount of money, and the other will return it in accordance with that agreement. One-to-one loans between sovereign and non-sovereign entities are known as bilateral credit agreements. Sovereign and non-sovereign borrowers are provided loans by bilateral creditors such as Japan, Germany and the United States as well as France, Netherlands and Russia.

- **International Monetary Fund.**

  As long as the member country has a current or probable balance of payments requirement, it may seek IMF financial aid. This means the country needs money to cover its net foreign payments (e.g., imports, external debt redemptions) while keeping enough reserve buffers for the future. International Monetary Fund (IMF) loans are designed to help countries make the necessary adjustments and changes in order to restore robust economic development.

- **Trade Credits**

  Foreign suppliers, banks, and financial institutions may offer loans and credits directly to sovereign and non-sovereign companies for imports. It consist of suppliers credit and buyers credit. In suppliers credit, the supplier of the goods from outside the country extends credit in the form of postponed payments.Credit given by a bank or financial institution and controlled by the Organisation for Economic Co-operation and Development (OECD) consensus conditions and insured by the export credit agency of the relevant nation is known as buyers' credit.

- **External Commercial Borrowing**

  Money generated via the issuance of securitised instruments such as bonds like India Development Bonds (IDBs) and Resurgent India Bonds (RIB), Floating Rate Notes (FRN) and others) and loans from commercial banks and other commercial financial institutions are all included. International Finance Corporation (IFC), Washington, the Nordic Investment Bank and private sector loans from the Asian Development Bank(ADB) are also included in this category**.**

- **Non-Resident Indian (NRI) Deposits**

  There are three categories of non-resident Indian (NRI) deposits:

  (i) NR (E) RA I Non Resident (External) Rupee Account In 1970, deposits were introduced. With cash transmitted to India via a overseas bank, any NRI may create an NRE account. A current, savings, or term deposit NRE account in Indian rupee may be established. The money in these accounts, as well as the interest earned, may be repatriated.

  (ii) FCNR (B) Foreign Currency (Non Resident) (Banks) Deposits were launched on May 15, 1993. Term deposits in Pound Sterling, US Dollars, Japanese Yen, Euro, Canadian Dollars, and Australian Dollars are available.

  (iii) Accounts in Non-Resident Ordinary Rupee (NRO) Citizens residing outside of India may establish and maintain an NRO account with an authorised dealer or a bank for the purpose of conducting genuine transactions in Indian rupees. NRO accounts may be created and maintained as current, savings, recurring, or fixed deposit accounts. NRIs and persons of Indian origin (PIOs) may remit up to USD one million each financial year from their NRO Account balances.

- **Rupee Debt.**

  Rupee debt includes both civilian and non-civilian debt (defence) in rupee denomination. Example of Rupee debt is debt due to Russia in rupees that is repayable via exports. The outstanding state credits (both defence and civilian) that the former Union of Soviet Socialist Republics granted to India (USSR). The loan is in rupees, and repayment is mostly accomplished via the selling of commodities to Russia.

- **Long Term Debt and Short term debt.**

  Long term debt is defined as debt with a maturity of more than one year, whereas short term debt is defined as debt with an original maturity of one year or less. Debt with a maturity of less than one year, including withdrawals related to loans, usage, and repayments, is categorised as short term.

Table 3.5

Creditor- Wise classification of external debt in India(In US $ Million)

Particulars	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1. Multilateral	20900	23090	25008	26263	28542	28616	29218	29553	30534	31438	31105	31899	29994	29297	31744	32620
2. Bilateral	14168	15466	16154	17450	20270	19213	17494	16969	17499	18175	15975	15323	16802	17277	17034	15761
3.IMF	2623	3451	4799	5040	4300	2374	1313	664	287	26	0	0	0	0	0	0
4 . Export Credit	4301	3990	4322	5203	6629	5376	5861	6526	6789	6780	5923	5368	4995	4697	5022	5420
5.ECB	10209	11715	11643	12363	12991	13873	14335	16986	20978	19943	24408	23320	22472	22007	26405	26452
6.NRI Deposits	10209	10083	11141	12665	12383	11011	11012	11913	11794	13559	16568	17154	23160	31216	32743	36282
7.RupeeDebt	12847	10420	10616	10084	9624	8233	7511	5874	4731	4406	3719	3034	2822	2720	2302	2059
A.Long Term	75257	78215	83683	89068	94739	88696	86744	88485	92612	94327	97698	96098	100245	107214	115250	118594
B. Short Term	8544	7070	6340	3627	4269	5034	6726	5046	4274	3936	3628	2745	4669	4431	17723	19539
Grand Total	83801	85285	90023	92695	99008	93730	93470	93531	96886	98263	101326	98843	104914	111645	132973	138133
Particulars	**2007**	**2008**	**2009**	**2010**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	
1. Multilateral	35337	39490	39538	42857	42857	48475	50452	51589	53418	52391	53956	54452	57214	57534	60045	
2. Bilateral	16065	19708	20610	22593	22593	25712	26884	25174	24727	21726	22464	23164	25436	25613	27289	
3.IMF	1029	1120	1018	6041	6041	6308	6163	5964	6149	5488	5605	5410	5861	5576	5435	
4 . Export Credit	7165	10328	14481	16841	16841	18614	18990	17765	15518	12608	10639	9677	9531	7915	7245	
5.ECB	41443	62334	62461	70726	70726	88479	120136	140195	149375	180295	180744	173074	201867	206614	220345	
6.NRI Deposits	41240	43672	41554	47890	47890	51682	58608	70822	103845	115163	126929	116867	12678	130476	130678	
7.RupeeDebt	1951	2017	1523	1658	1658	1601	1354	1258	1468	1506	1278	1228	1230	1278	1028	
A.Long Term	144230	178669	181185	208606	208606	240871	282587	312767	354500	389177	401615	383872	427120	440678	451642	
B. Short Term	28130	45738	43313	52329	52329	64990	78179	96697	91678	85498	83374	87980	102248	102478	106956	
Grand Total	172360	224407	224498	260935	260935	305861	360766	409464	446178	474675	484989	471852	529368	543156	558580	

Source : RBI Database

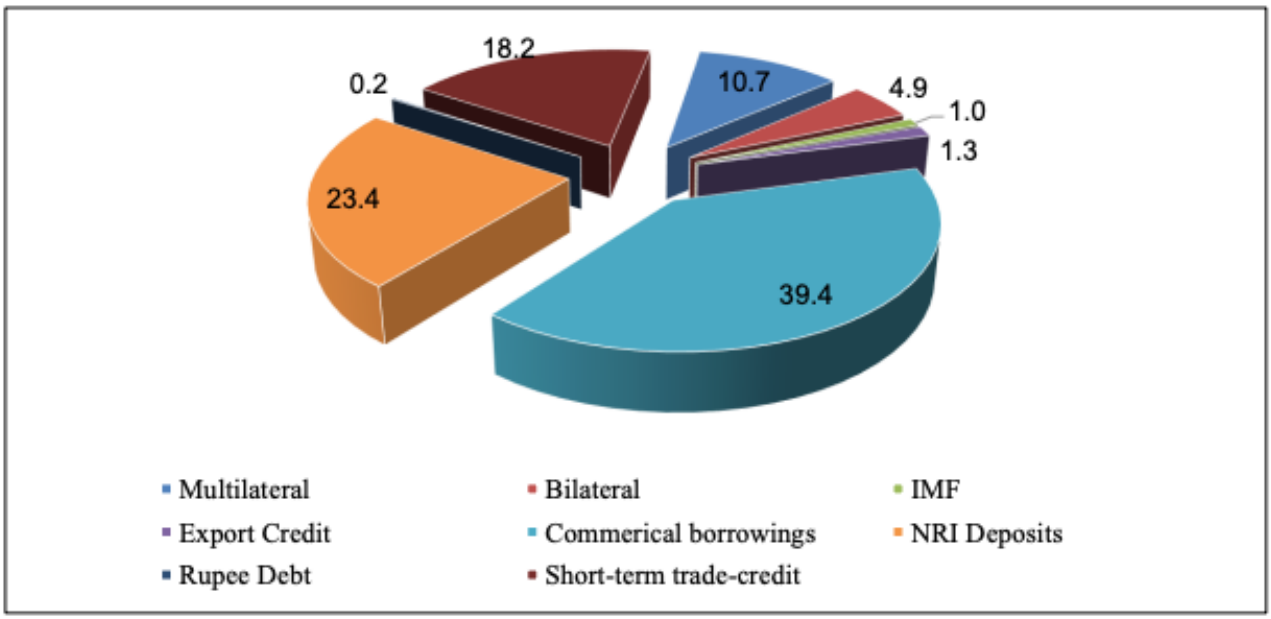
The creditor wise categorization is shown in Table 3.5. It demonstrates that the proportion of multilateral debt, bilateral debt, export credit, and ECBs in total foreign debt climbed from 1990 to 1994-95, while rupee debt, IMF borrowings, and short-run debt as percentage shares of total ED fell. NRI deposits or the ECB's proportion of total foreign debt climbed dramatically between 1995-96 and 2000-01. During this time, the percentage of multilateral, bilateral, export credit, and rupee debt in total foreign debt decreased considerably, and the IMF loan was paid off completely. Between 2001-02 and 2005-06, ECBs and NRI deposits increased, while overall foreign debt decreased due to multilateral debt, bilateral debt, rupee debt, export credit, and long-term debt.

According to the statistics in table 3.4, bilateral debt, IMF debt, export credit, ECBs, and NRI deposits as a percentage of total foreign debt enhanced from 2006-07 to 2011-12, while long-term debt and multilateral debt decreased. The percentage proportion of ECBs, NRI deposits, and long-run debt in total foreign debt enhanced from 2012-13 to 2016-17, whereas the share of multilateral debt, bilateral debt, IMF loans, export credit, and rupee debt in total external debt decreased.

The overall foreign debt and its components decreased in 2016-17, with the exception of a modest rise in multilateral debt, bilateral debt, and short-term debt. This year, bilateral debt was US$ 23164 million, up 3.1 percent from the previous year, while multilateral debt totalled US$ 54452, up just 0.09 percent from the previous year. Similarly, short-term debt, which totalled US$ 87980 million, was up 5.5 percent from the previous year. External commercial borrowings, valued at US$ 173074 million, accounted for the largest part of total foreign debt (36.7 percent), followed by NRI deposits, valued from US$ 116867 million, accounting for 24.8 percent of total external debt. The other components, such as IMF borrowings, Rupee debt, and export credit, each contributed around 3.5 percent to total foreign debt. Long-term debt was US$ 383872 million, accounting for 81 percent of total foreign debt, while short-term debt totalled US$ 87980 million, accounting for 19 percent of total external debt.

Figure 3.11

Creditor wise share of External debt, 2020.



Source : RBI Database

At the end of March 2020, the volume of international and bilateral debt was $ 60 billion and $ 27 billion, respectively. More than half of the rise in total debt was attributable to commercial lenders (220 billion US dollars), or 6.7% of the growth in total debt. According to an estimate of US $131

billion as of March 31, 2020, deposits from Non-Resident Indian (NRI) depositors, the second-largest lenders after commercial lenders, have remained unchanged from the previous year. As of the end of March 2019, short-run creditors' debt was at US $ 107 billion, a 1.4 percent decrease from the end of the previous quarter (the single-largest short-term creditor). Figure 3.12 shows the different creditors' shares of debt at the end of March 2020 .Commercial lenders, NRI depositors, and short-term trade loans all contributed more than a quarter of the outstanding debt since the end of March 2020 .Over 80% of the overall debt is owed to these three categories of creditors.

Based on the above research, it is evident that there is a change in the composition of creditor wise debtor in India. As it shifted from multilateral and bilateral sources to commercial borrowings, NRI deposits and short term credits.

C. Debtor Wise Classification.

For the purpose of analysing total external debt, a borrower-wise categorisationis also devised. Table 3.6 shows the categorisation of India's foreign debt based on the kind of borrower. It indicates that the overall foreign debt's government and non-government debt together did not alter much between 1990-91 and 1994-95. A closer examination at the data shows that government debt ranged from 59.6 percent to 60.1 percent of total foreign debt throughout this time, while non-government debt ranged from 39.9 to 40.4 percent.Between 1997-98 and 2003-04, the government's debt to total foreign debt decreased steadily, averaging between 49.6 percent and 40.0 percent. Government debt dropped dramatically in the years after 2003-04, with a minimal proportion of 18.8 percent of total foreign debt in 2014-15.

The proportion of non-government debt in overall foreign debt increased considerably during this time. The share of long-term debt increased the fastest as compared to other non-government debt components. In addition, the financial industry, followed by the private and public sectors, was responsible for the biggest portion of long-term nongovernment debt. While the share of non-government debt fell from 2016 to 2017, the proportion of government debt in the total foreign debt increased slightly.

Table 3.6

Debtor Wise Classification of External debt in India(In US $ Million)

Particulars	1991	1992	1995	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1.Government Debt	49957	51027	59502	46520	46137	46852	43956	43575	43612	44674	46668	45278	49360
(A)of which Long Term	49957	51027	59502	46520	46137	46852	43956	43575	43612	44674	45509	45138	49034
A-1 Govt. Account	33744	36739	45293	40805	41896	42823	40727	40965	41216	41142	43686	43510	46155
A-2 Other Govt. Account	16213	14288	14209	5715	4241	4029	3229	2610	2396	3532	1823	1628	2879
(B) of which Short Term	0	0	0	0	0	0	0	0	0	0	1159	140	326
2.Non-Governmen Debt	33844	34258	39506	47011	50749	51411	57370	55268	61302	66971	86305	92855	123000
(A)of which Long Term	25300	27188	35237	41965	46475	47478	53742	52523	56633	62540	69741	73456	95196
A-1 Financial Sector	NA	NA	NA	20113	23699	25105	32661	32367	37032	40575	43455	42334	48414
A-2 Public Sector	NA	NA	NA	9753	9284	9316	9024	8225	7518	7685	6496	6671	7978
A-3 Private Sector	NA	NA	NA	12099	13492	13057	12057	11931	12083	14280	19790	24451	38804
(B)of which Short Term	8544	7070	4269	5046	4274	3933	3628	2745	4669	4431	16564	19399	27804
Total External Debt(1+2)	83801	85285	99008	93531	96886	98263	101326	98843	104914	111645	132973	138133	172360
Particulars	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
1.Government Debt	58070	55870	67067	78072	81896	81655	83695	89717	93437	95779	111937	103283	100851
(A)of which Long Term	57455	54931	65549	75230	75789	77868	79914	89603	93329	95680	111662	103560	100609
A-1 Govt. Account	52541	51816	55235	62295	63374	61336	62204	58462	61060	62800	68574	68842	72709
A-2 Other Govt. Account	4914	3115	10314	12935	12415	16532	17710	31141	32269	32880	43088	34717	27901
(B) of which Short Term	615	939	1518	2842	6107	3787	3781	114	108	99	275	263	242
2.Non-Governmen Debt	166337	168628	193868	227789	278870	327809	362483	384958	391552	376073	417219	439290	457698
(A)of which Long Term	121214	126254	143057	165641	206798	234899	274586	299574	308285	288192	315321	331137	351061
A-1 Financial Sector	51138	48617	55933	62819	85689	102261	135175	144619	159629	147526	169008	190394	194836
A-2 Public Sector	11040	12599	13749	16021	19180	23943	33226	33711	33711	28646	29493	34147	33470
A-3 Private Sector	59036	65038	73375	86801	101929	108605	106185	121244	121244	112020	116819	106596	122756
(B)of which Short Term	45123	42374	50811	62148	72072	92910	87897	85384	85384	87881	101898	108152	106636
Total External Debt(1+2)	224407	224498	260935	305861	360766	409464	446178	474675	484989	471852	529156	543112	558548

Source : RBI Database

The exceptional foreign portfolio investment in government securities as of the final moment of March 2020 decreased by 23.4% from the end of March 2019 to the end of March 2020, resulting in a decrease of approximately 3% in the general government debt at the end of March 2020 compared to the stock at the end of March 2019.

D. Currency wise classification.

As the exchange rate is directly linked to the external debt situation, currency-wise categorisation is critical to understanding the composition of debt. The proportion of foreign currency used to represent the external debt is a relevant point of information for any analysis on external debt. From 1993-94 to 2019-20, the foreign debt of India is shown in table 3.6 in terms of the currencies that it is denominated . A move from fixed-rate to floating-rate exchange rates necessitated a modification in the data presented in the table (3.7).

India's foreign debt was mostly financed by the SDR, Japanese Yen, Indian Rupee and US Dollar including the Euro and Pound Sterling. The table clearly shows that the US dollar was the dominat-

ing currency from 1993-94 to 2001-02, followed by SDRs.Since 2002-03, the Indian rupee has been more dominant than the SDR. As a result, SDRs were the third most prevalent currency in India's foreign debt. Only in 2007-08 did the Japanese Yen take third place in India's foreign debt composition, overtaking the SDR. From 1993-94 to 2016-17, US dollars made for 40-60% of total expenditures at the global level. Loans from IBRD and ADB, which were accepted by the Indian Government in US$ terms, have led to a domination of USD..

Table 3.7

Currency wise composition of External Debt.

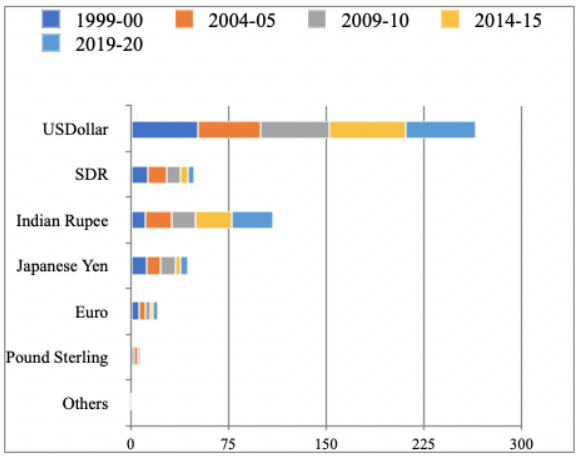
Particulars	1993-94	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
USDollar	41.4	51.4	55	54.3	46.5	40.5	48	49.2	51.1	55.3	54.1
SDR	14.9	13.2	12.8	14.1	15.2	15.5	14.2	13.7	12.4	10.6	9.8
Indian Rupee	14.8	11.6	12.4	11.9	17.3	22.7	19.6	18.9	18.5	16.2	15.4
Japanese Yen	13.7	12.7	10.1	10.2	10.7	11.6	10.5	10.9	11.4	12	14.3
Deutsche Mark	6.3	-	-	-	-	-	-	-	-	-	-
French Franc	1.8	-	-	-	-	-	-	-	-	-	-
Netherlands	1.1	-	-	-	-	-	-	-	-	-	-
Euro	-	6.9	5.8	5.7	6.2	5.8	4.6	4.4	3.9	3.5	4.1
Pound Sterling	3.3	2.9	2.9	2.9	3.1	3.4	2.6	2.6	2.4	2.2	1.9
Canadian Dollar	0.7	0.5	-	0.4	0.4	0.1	-	-	-	-	-
Others	2	0.8	1	0.5	0.6	0.4	0.5	0.3	0.3	0.2	0.4
Total	100	100	100	100	100	100	100	100	100	100	100
Particulars	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
USDollar	53.2	53.6	56.9	59.1	61.1	58.3	57.1	52.1	49.5	50.4	53.7
SDR	10.7	9.7	8.3	7.2	6.8	5.8	5.8	5.8	5.5	4.9	4.5
Indian Rupee	18.7	19.5	20.5	22.9	21.8	27.8	28.9	33.6	35.8	35.7	31.9
Japanese Yen	11.5	11.3	8.7	6.1	5	4	4.4	4.6	4.7	5	5.6
Deutsche Mark	-	-	-	-	-	-	-	-	-	-	-
French Franc	-	-	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-	-	-
Euro	3.6	3.7	3.7	3.4	3.3	2.3	2.5	2.9	3.4	3.1	3.5
Pound Sterling	1.8	1.7	0.9	0.7	1.1	0.9	0.8	0.6	0.6	0.5	0.4
Canadian Dollar	-	-	-	-	-	-	-	-	-	-	-
Others	0.5	0.5	1	0.6	0.9	0.9	0.5	0.4	0.5	0.4	0.4
Total	100	100	100	100	100	100	100	100	100	100	100

Source : RBI Database

Since 1990-91, long-run debt has surpassed short-run debt in terms of total debt. ECB and NRI deposits grew steadily as part of India's long-term debt, while debt from multilateral and bilateral sources continued to decrease. As a result, private debt has rose at a far quicker than public debt. In addition, since 1990-91, the ratio of concessional debt has been steadily decreasing owing to a steady increase in private loan flows.

Figure 3.12

Currency composition of External Debt



Source : RBI Database

It is clear that the US dollar remains the most popular medium of exchange, constituting around 54% of all units of account as of the end of March 2020 (up from 50% a year earlier but down from its peak in the early 2010s). Increased foreign direct investment (FPI) in India over the last several years has led to a rise in demand for the Indian rupee as a medium of exchange. As of the end of March 2020, the Indian rupee's market share was down from 32% a year earlier to 51.0 billion dollars due to a fall in outstanding foreign direct investment (FDI) from 60.0 billion dollars in FDI at the end of March 2019. TheSDRs (4,5%), Japanese Yen (5,6%) and Euro are the next most popular currencies after the US dollar and the Indian rupee (3.5 per cent).

E. Instrument Wise Classification.

Identifying debt by its mechanism and source (instrument) allows for a better understanding of total debt volume. The following are the means through which many sectors of the economy have taken on more debt, such as the federal government, the public and non-profit sectors of business and the financial industry. As shown in Table 3.7, India's foreign debt is classified according to the instrument. Table 3.7 breaks out India's foreign debt by instrument during 2019-20. Loans make up the most of the government's contributions, while deposits make up the most of the financial sector's contributions. Non-financial public and non-financial private sector loans once again accounted for the largest percentage of total contributions, while short-term debt accounted for the highest percentage of total contributions.

Table 3.8

Instrument Wise classification of External Debt in India,2020.

	Borrower	Bonds & Notes	Loans	Trade Credits	Deposits	Total
1	2	3	4	5	6	7
I	Government	21.6 (21.5)	71.6 (71.2)	1.9* (1.9)	5.4** (5.4)	100.6
II	Financial Sector@	37.7 (194.0)	26.5 (13.6)	0 (0.0)	130.6 (67.0)	194.8
III	Non-Financial Public Sector	6.7 (20.1)	26.8 (79.9)	0 (0.0)	0 (0.0)	33.5
IV	Non-Financial Private Sector	43.8 (35.7)	78.0 (63.5)	0.9 (0.8)	0 (0.0)	122.8
V	Short-Term Debt	2.0 (1.8)	0 (0.0)	101.4 (94.9)	3.5 (3.3)	106.9
V	**Total External Debt*** **	**111.9 (20.0)**	**202.8 (36.3)**	**104.3 (18.7)**	**139.5 (25.0)**	**558.5**

Source :External Debt Status Report (2019-20), Ministry of Finance, Govt. of India

Table 3.7 shows that as of March 2020, debtors' access to foreign debt was composed of loans (including multilateral and bilateral credit and bank loans), deposits (25%), bonds and notes (20%), and trade credit (3%). (18.7 per cent). Deposits from non-resident Indians make up 67.0% of the banking industry's foreign debt, while loans to the government make up 71.2%, the non-financial public sector 79.9%, and the non-financial private sector 20.1%. (63.5 percent). Trade credit is the primary source of funding for short-term international debt (95 percent).

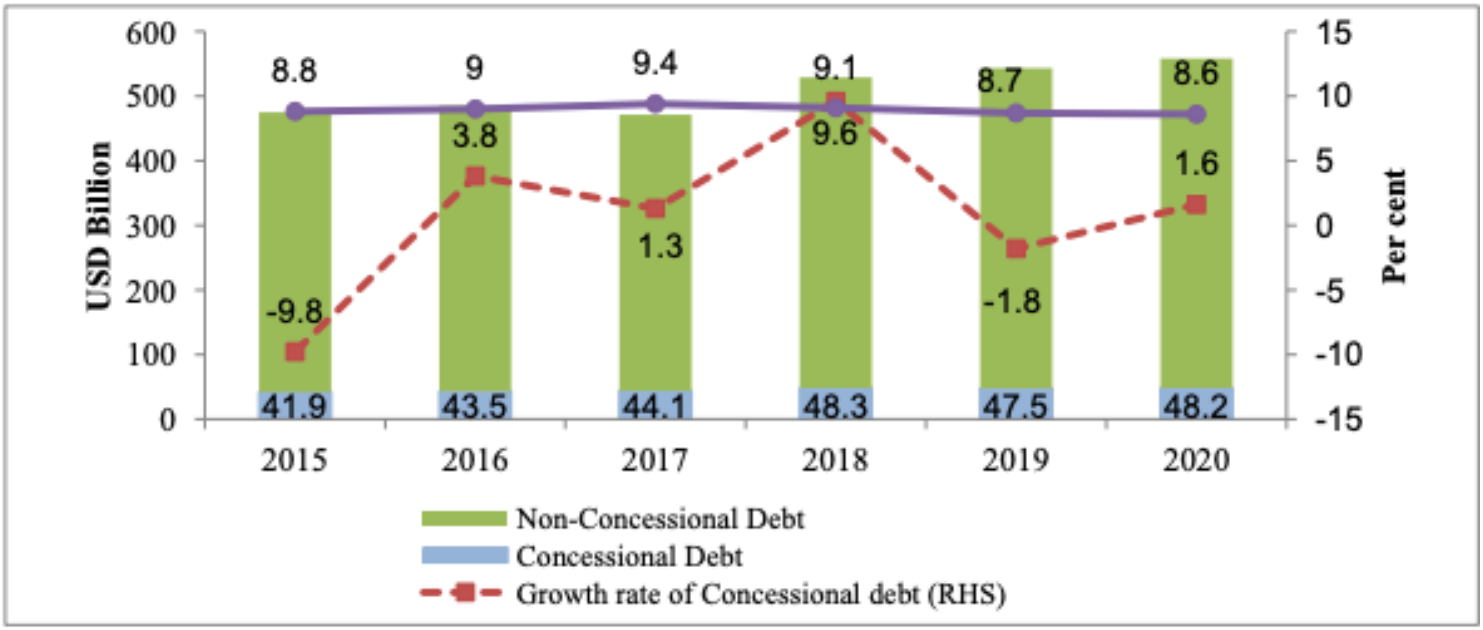
F. Concessionality Wise Classification of External Debt.

When a loan's terms are less stringent than the current market, it is considered a concession. Reduced interest rates, longer maturity or payback periods, or any combination of these are all examples of concessionality, which may be quantified by comparing the loan principal plus future interest and principal payments discounted at a certain rate. Concessional and non-concessional credits are classified differently by various multinational organisations. “International Development Agency (IDA), International Fund for Agricultural Development – IFAD,” and Organization of Petroleum Exporting Countries are all regarded as concessional loans in India since they provide extended maturities and cheap interest rates/service costs.

Non-concessional loans, on the other hand, come from institutions like the IBRD, ADB, and others that charge market rates. Concessional borrowing by the government from bilateral sources (other than loans denominated in dollars from Russia).Debt paid by exports, such as the rupee debt, is also considered to be a concession.

Figure 3.13

Concessional and Non Concessional component of External Debt in India.



Source :External Debt Status Report (2019-20), Ministry of Finance, Govt. of India

Figure 3.13 shows that even though the economy was expanding, outstanding concessional debt stayed within a narrow range for a long time. As of the end of March 2020, the concessional debt has increased by a sliver of 1.6 percent to US$ 48.2 billion. There has been a significant reduction from the peak of nearly 20% of total debt at the end of March 2008 to an expected low of roughly 9% by the end of March 2020.

Concluding remarks after analysing the compositional patterns

Finally, it is evident after analysing the various facets of ED in India by analysing the specifics of India's ED in terms of its many categories. The following observations are made by the author

1. First, proactive policy has led to a modest but noticeable decline in the proportion of sovereign debt, which in turn indicates less reliance on concessional loans from multilateral and bilateral sources provided via foreign development assistance programmes.
2. Non-financial firms in the private sector are the primary borrowers of foreign debt, and they have done so mostly via loans rather than stock investments.
3. Indian external debt is denominated mainly in US dollar, where more than half of the debt is in dollar terms . Concessional debt is overthrown with the growth of non concessional debt, mainly after the Economic reforms of 1991. But the overall analysis gives hope as the signs for a crises is not severe in India.

3.3.3 Key Indicators of India's External indebtedness.

It is good for all economies if they are able to control and mane their debt levels in a certain level. As no economies are Robinson Crusoe economies every economy have to depend on other economies for both financial and non financial needs. But the ideal phase is when the economic relations between the nations are stable and sustainable. To assess the stability and sustainability of the financial stance , especially the debt burden several indicators are used. These indicators can be a measure of liquidity, solvency and stability of debt phenomenon in an economy. It can also give guidance for proper debt management. India's case is not different. Several foreign debt indicators are used on a periodic basis to evaluate India's ED in terms of liquidity and long-term sustainability. Short-term loans, concessional loans, and foreign exchange reserves are all included in this list of ratios, as are foreign currency reserves and foreign exchange reserves. Table 3.8 shows the most relevant ratios of India's foreign debt from 1991 to 2020 using the most recent data available. The major debt indebtedness indicators in India are discussed as follows.

Table 3.9

Key Indicators of External Indebtedness in India (In US $ Million).

Year	External Debt	Ratio of External Debt to GDP	Debt Service Ratio	Ratio of Foreign Exchange Reserves to Total Debt	Ratio of Concessional Debt to Total Debt	Ratio of Short-term Debt (original maturity) to Total Debt
1991	83.8	28.3	35.3	7.0	45.9	10.2
1992	85.2	38.7	30.2	10.8	44.8	8.3
1993	90.01	37.5	27.5	10.9	44.5	7.0
1994	92.69	33.8	25.4	20.8	44.4	3.9
1995	99.0	30.8	25.9	25.4	45.3	4.3
1996	93.7	26.6	26.2	23.1	44.7	5.4
1997	93.4	24.5	23.0	28.3	42.2	4.4
1998	93.5	24.3	19.5	31.4	39.5	4.0
1999	96.8	23.6	18.8	33.5	38.5	3.4
2000	98.2	22.2	17.1	38.7	38.9	3.2
2001	101.3	22.1	16.6	41.7	35.4	3.6
2002	98.8	20.4	13.6	54.7	35.9	2.8
2003	104.9	17.8	16.0	72.5	36.8	4.5
2004	111.6	17.3	15.9	101.2	36.1	4.0
2005	133	15.8	6.0	106.4	30.9	13.3
2006	139.1	17.1	5	109.0	28.4	14.0
2007	172.4	17.7	4.7	115.6	23.0	16.3
2008	224.4	18.3	4.8	138.0	19.7	20.4
2009	224.5	20.7	4.4	112.2	18.7	19.3
2010	260.9	18.5	5.8	106.9	16.8	20.1
2011	317.9	18.6	4.4	95.9	14.9	20.4
2012	360.8	21.1	6.0	81.6	13.3	21.7
2013	409.4	22.4	5.9	71.3	11.1	23.6
2014	446.2	23.9	5.9	68.2	10.4	20.5
2015	474.7	23.8	7.6	72.0	8.8	18.0
2016	484.8	23.4	8.8	74.3	9.0	17.2
2017	471.0	19.8	8.3	78.5	9.4	18.7
2018	529.3	20.1	7.5	80.2	9.1	19.3
2019	543.1	19.9	6.4	76.0	8.7	20.0
2020	558.4	20.6	6.5	85.6	8.8	19.1

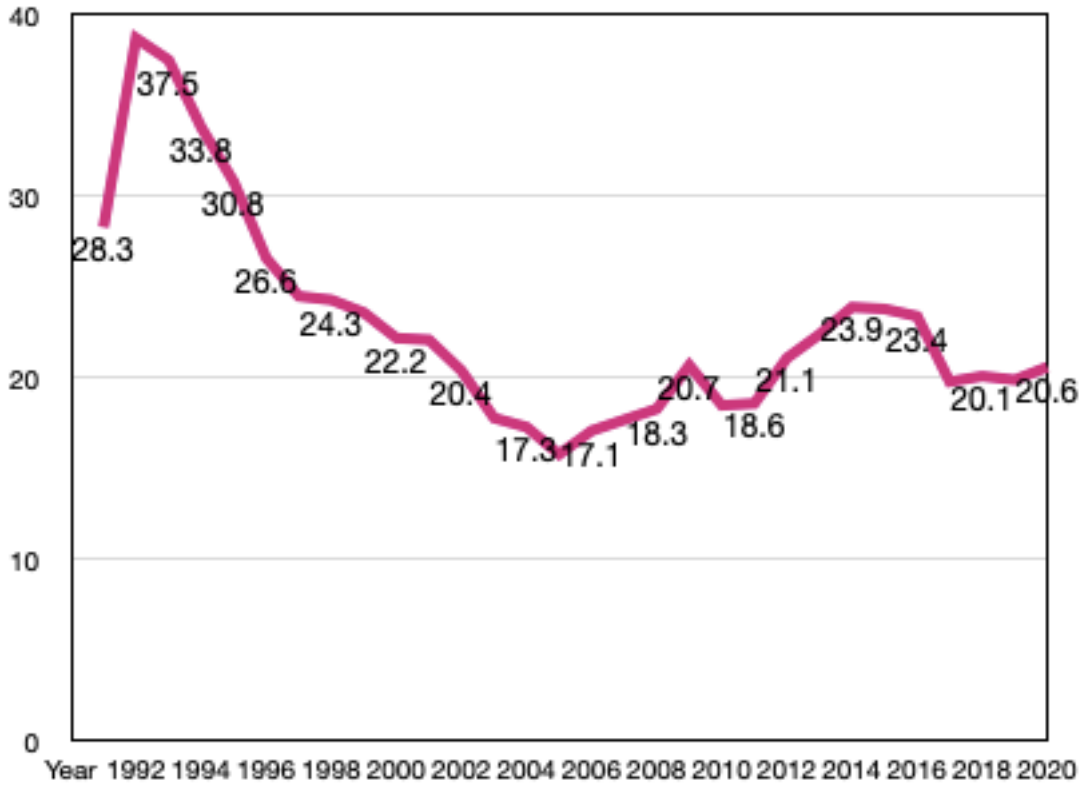
Source : RBI database

A. External Debt to GDP Ratio

The debt-to-GDP ratio illustrates how debt levels relate to economic output. Knowing a country's debt-repayment capacity and economic standing is useful. Always a lower ratio is preferable, as it suggests that a nation has less foreign debt relative to its GDP. Table 3.8 (figure 3.14) shows that the country's foreign debt situation has improved in proportion to GDP during 1991-92, as can be seen from the trend and vulnerability of the ratio.

Figure 3.14

Trend of External debt to GDP Ratio in India from 1991 to 2020(In US $ Million).



Source : RBI database

To put it another way, India's foreign debt amounted to 38.7 percent of GDP in 1991-1992, putting it in a precarious situation. The Government of India began the process of economic reforms because of the severity of the crisis. A series of good policy measures were developed throughout this period, including export promotion, import substitution, and the change from debt-creating foreign

capital sources to debt-free foreign capital flows, such as opening the economy to foreign direct investment.

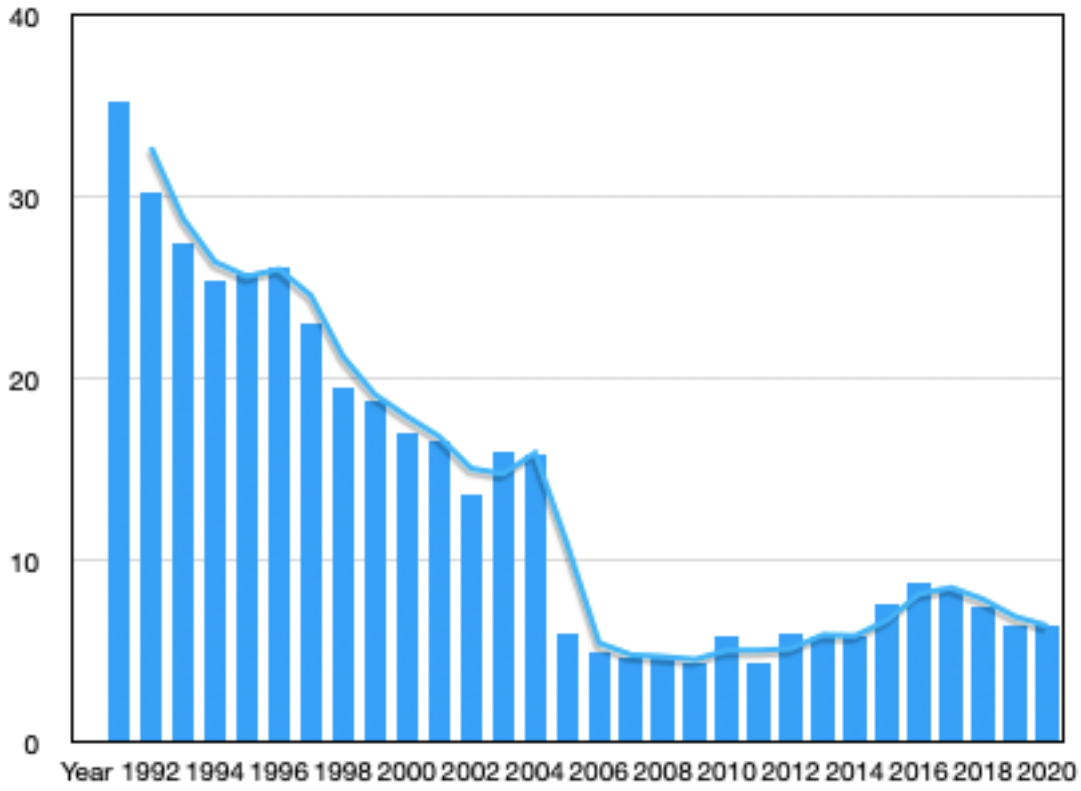
With these steps, the country's external debt situation improved significantly, and the foreign debt to GDP ratio decreased significantly as a consequence. The ratio from 38.7 percent in 1991-92 to 20.4 percent in 2001-02 and then to 15.8 percent in 2004-05 has been steadily decreasing since then. Despite the fact that this ratio was at its lowest in 2004-2005, it grew to 17.5% in 2005-2006, 20.3% in 2007-2008, and 22.3% in 2011-2012 before rising to this year. Due to the depreciation of the rupee's value, GDP in US dollars contracted by a little amount. India's foreign debt-to-GDP ratio has remained around the same since 2012-13. During 2020 it was recorded as 20.6 percentage of GDP.

B. Debt Service Ratio.

The following figure shows the debt service ratio in India from 1991 to 2020. The debt service ratio in India can be analysed as follows.

Figure 3.15

Debt Service Ratio in India from 1991 to 2020 (In US $ Million)



Source : RBI database

According to OECD, “The debt service ratio is the ratio of debt service payments made by or due from a country to that county’s export earnings”.The debt service ratio (DSR) may be determined by comparing current revenue in the BoP account to the total debt service payment obligation (principal + interest). It is considered a burden on BoP due to the fact that it requires payment from current income. In 1990-1991, India had an extraordinarily high debt service ratio of 35.3 percent, as indicated in table 3.8 (figure 3.15), as a result of the Indian economy's huge foreign debt load.

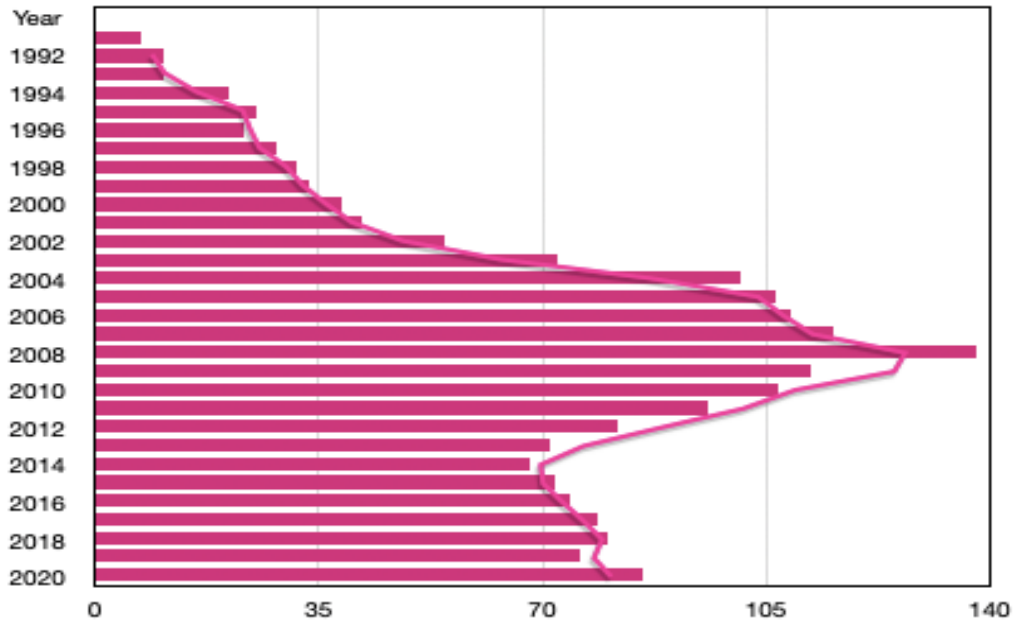
However, as a result of the Indian government's economic reforms and careful debt management policies, the percentage has progressively improved. In 1991-1992, the debt service ratio decreased greatly, notwithstanding the fact that the ratio of foreign debt to GDP rose substantially. This is a great development for the nation's external debt management and foreign currency reserves. With a few notable exceptions, Table 4.8 demonstrates that the country's DSR consistently decreased between 1990 and 2020. DSR decreased from 15.9 percent in 2004 to 6.0 percent in 2005, then remained between 4.4 and 6.0 percent between 2005 and 2013 .After 2014, even though there was an increase in debt service ratio upto 8.8 percent level, but by 2020 the ratio has declined to 6.5. Interest rates in international markets have been lowered, and balances of payment have been increased, resulting in reduced commercial loan repayments (ECBs). Except for a few exceptions, the debt service ratio has been decreasing steadily since 1990-91. Balance of payments (BoP) net current revenues are projected to grow as debt servicing obligations are reduced.

C. Ratio of Foreign Exchange Reserve to Total Debt.

The ratio of foreign exchange reserves to external debt illustrates how external debt relates to foreign currency reserves. To what extent a nation can meet its ED obligations (principal plus interest) with its foreign currency resources is what this measure indicates. Changes in the proportion of foreign currency on hand to total external debt are shown in table 3.8 (figure 3.16). From the numbers, it is clear that India's foreign exchange reserves were at their lowest in the 1990s. With just a 7% foreign currency reserve, it had a foreign debt to GDP ratio to rival Greece. However, the situation has substantially improved in recent years as a consequence of the economic reform process and corrective measures undertaken by the government to strengthen BoP.

Figure 3.16

Ratio of Foreign Exchange Reserves to Total Debt(In US $ Million)



Source : RBI database

The ratio climbed from 7% in 1990-91 to 25.4 percent in 1994-95 and 54.7 percent in 2001-02. The ratio increased dramatically between 2001-02 and 2007-08, rise from 54.7 % in 2001-02 to 101.2 % in 2003-04 and reaching a peak of 138.0 percent in 2007-08. This increase in the ratios was driven by structural policy changes implemented by the Government of India, which resulted in an improvement in the current account position and resulting foreign currency reserves. The fall in ratio after 2007-08 was driven by a current account deficit induced by the global financial crisis, and the moderations in ratio after 2012-13 were caused by an increase in NRI deposits as well as an improvement in the current account situation. The forex to external debt ratio in India hovers around 85.6 during 2019-2020.

D. Ratio of Concessional debt to Total debt.

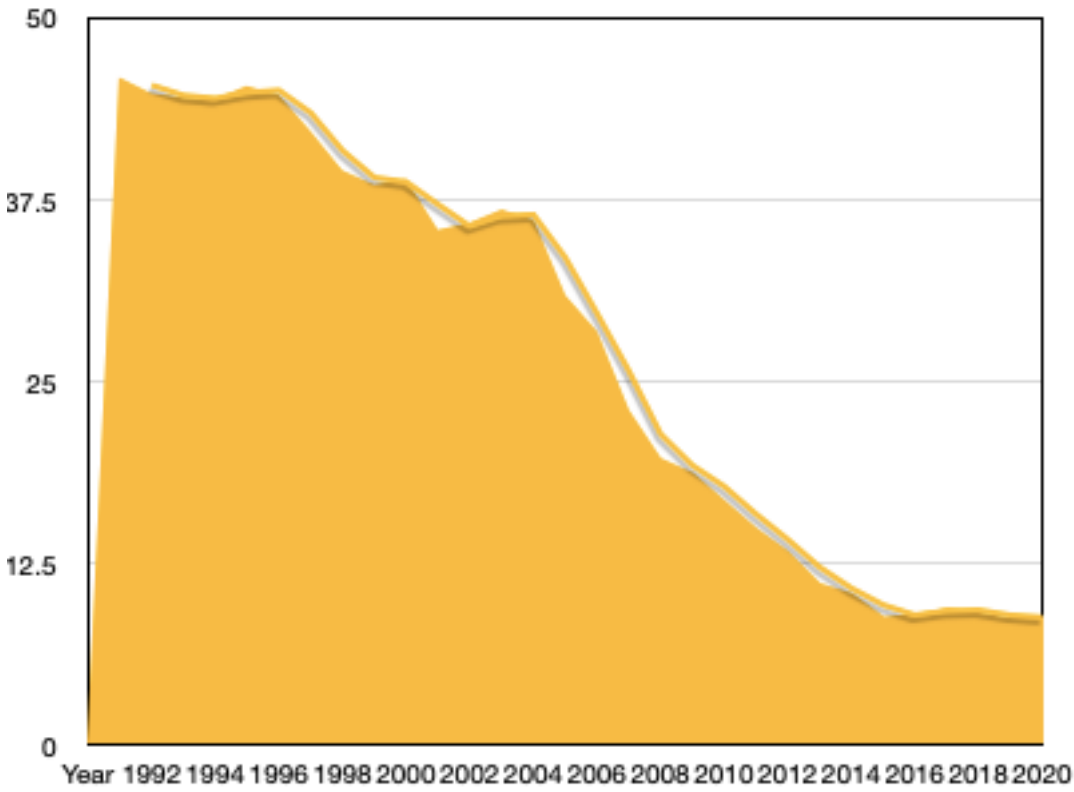
This ratio represents the proportion of total debt that was incurred under more lenient terms. It is suggested that additional loans be obtained under more lenient conditions in order to reap the benefits of a lower interest rate and a lighter debt load.This would make future payments easier. Between 1991 and 2001, the ratio steadily declined from 45.9% to 35.4 percent, as shown in Table 3.8 (figure 3.17). After 2000-01, it increased somewhat, reaching 36.8% in 2002-03. Following then, it

dropped precipitously to 16.8% in 2009-10 and 9.3% in 2016-17. The current ratio is 8.8 which is too insignificant as compared to the ratio of 45.9 during 1991.

The general decrease in the ratio may be explained by changes in the makeup of total foreign loan volume. Though the government's external debt management strategy emphasised securing debt on favourable terms, the percentage of concessional debt in the country's overall foreign debt has decreased significantly as the amount of private debt has increased and the share of government debt has decreased.

Figure 3.17

Ratio of Concessional Debt to Total Debt(In US $ Million)



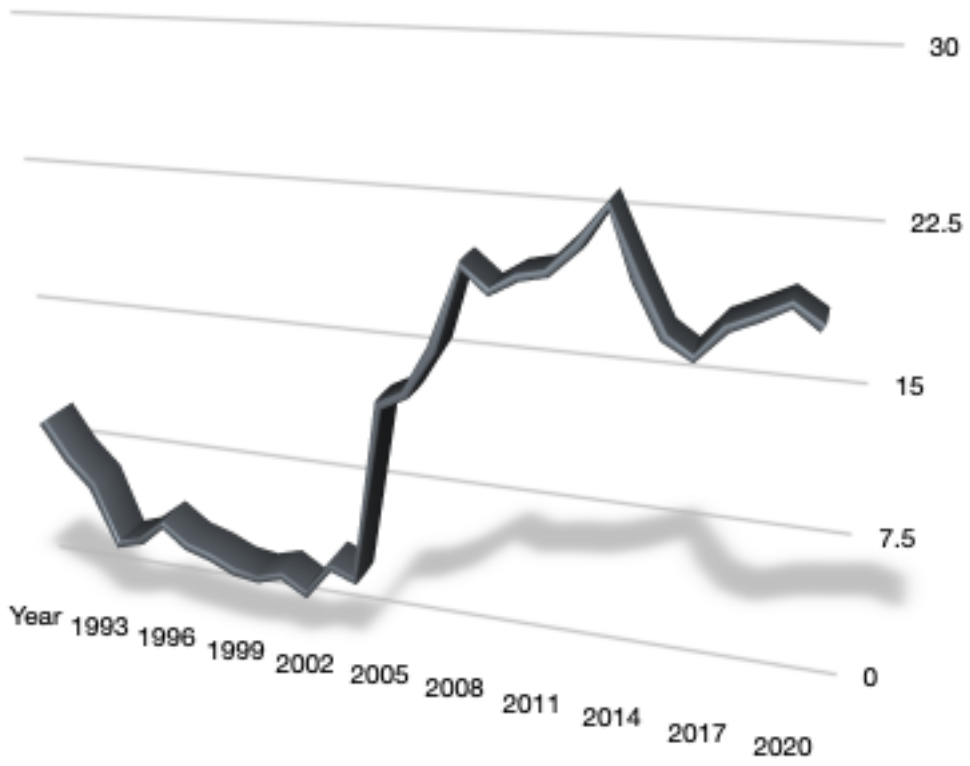
Source : RBI database

E. Ratio of Short-term Debt (original maturity) to Total Debt

The ratio of a country's narrow debt to its overall debt shows how much of the country's debt has a maturity of less than a year. Maintaining a low but manageable amount of narrow debt might help smooth out cash flow issues. Significant amounts of narrow foreign debt might be problematic in the case of a liquidity crisis, when options for rollover or refinancing on international financial markets are restricted (Ministry of Finance. 2019). Table 3.8 shows (figure 3.18) that during 1990-91, the proportion of narrow debt to overall debt has been growing.

Figure 3.18

Ratio of Short-term Debt (original maturity) to Total Debt(In US $ Million)



Source : RBI database

10.2 percent portion of India's foreign debt was held by short-term debt during the 1990-91 period, which thereafter fell with considerable fluctuation until 2002-03. The ratio was 2.4% in 2000-01, when it was at its lowest point. It was because to the government's policies, which started in 1991 and focused on reducing short-term debt and generating non-debt flows, that this ratio was improved. This ratio increased from 4% in 2002-03 to 13% in 2003-04. A record high of 23.6% was reached in 2011-12, and the ratio has since been steadily rising ever since.

After 2003-04, the ratio increased due to an increase in short-term debt coverage. For the first time, trade credits between six months to a year in duration have been excluded. Data on external debt also contains information on short-term debt instruments, treasury Bills and similar debt instruments with a maturity of one year or less fall under this category. Additionally, it was broadened to include treasury bill investments by foreign central banks and international organisations, as well as

short-term external debt obligations by both commercial and central banks. The ratio of imports to exports grew from 2013–14 to 2015–16 as trade credits shrank. Acceleration of the reversal of the trend from 2015-16 may be attributed to the improvement of trade credit. The ratio of short-term to long-term debt is projected to reach 19.1 by 2020.

3.5 Summary.

Indian economy has amassed a massive amount of external debt since 1991. According to data collected in 1991-92, the country's external debt was $83801. The BoP crisis brought on by recurrent current account deficiencies, which in turn raised the economy's borrowing needs, was blamed for the high level of gross External debt reported by India during 1990-91. External debt grew as a consequence of unfavourable BoP, persistent existing amount deficits, and currencies rate fluctuations. The Government of India initially turned to external finance; subsequently, to address the long-term balance of payment issue, it began the process of reforms in a step-by-step manner.

From 1990-91 to 1994-95 there was a significant rise in the percent share of international, bilateral, IMF, export credit, and ECB loans in total external debt, while the percent share of rupee and short-term loans in total loans decreased. The percent share of NRI deposits in total ED did not change significantly during this time frame. The data shows that despite rising external debt, most indices of a country's financial health suggest that the country's debt situation is improving. The government's initiatives, such as restricting short-term debt, focusing on exports, and restraining debt-creating flows, accounted for this change.As a consequence of proactive policy, the percentage of sovereign debt has decreased gradually but noticeably, indicating a reduction in the dependence on concessional loans from under the aegis of international development aid initiatives, multilateral and bilateral sources fund international development assistance. The private sector, led by non-financial firms, is the main receiver of external debt, having mostly received foreign debt via loans as opposed to equity.Indian external debt is denominated mainly in US dollar, where more than half of the debt is in dollar terms . Concessional debt is overthrown with the growth of non concessional debt, mainly after the Economic reforms of 1991. But the overall analysis gives hope as the signs for a crises is not severe in India.

CHAPTER 4

A CAUSAL ANALYSIS OF THE INFLUX OF EXTERNAL DEBT IN INDIA DUE TO THE DEFICITS.

4.1 Introduction

One of the key concerns of policymakers and academicians throughout the globe is the issue of external debt. Many nations throughout the globe have traditionally used foreign borrowing to augment national investment required for economic expansion. According to the empirical research on international debt, some borrowing nations were successful in using foreign borrowing and repaying the loans on time, while others became defaulters and often experienced financial crises. Research on international debt sought to discover the causes of the problems and crises and proposed different solutions. In reality, a variety of variables might play a role in emerging nations' debt payment issues.If a nation is unable to generate money from its own resources, such as taxes, or if it is unable to locate foreign cash to make repayments, it faces a debt servicing difficulty. In summary, foreign borrowing is used to fund the borrowing country's fiscal imbalance and current account deficit.

When India's external indebtedness and subsequent inability to pay financial obligations began in the 1980's, intellectual circles, policymakers, and the wider international community engaged in passionate disputes over the origins of the debt crisis. While poverty and external circumstances seem to be the primary causes of India's external indebtedness, there is still an ongoing dispute on the need for the Indian government's borrowing abroad. A look at the post-reform era of India's foreign debt shows that the structure and composition of external debt changed significantly throughout that time period. Even though the external debt declined drastically after the economic reforms and due to the effective debt management policies of the government of India, there is still an inflow of debt burden which needs to be emphasised and tackled. In order to find any solution to the debt escapades, it is necessary to enquire about the causal reasons or the root cause of such a scenario. It is also critical to understand the causal reasons behind the external indebtedness to see how the different components lead to external indebtedness, especially after the reforms. It is also necessary to identify the elements that drive external debt, which in turn has had a substantial impact on the magnitude of ED in terms of its composition.

Even in the twilight of the new century, external indebtedness remains as an issue in the Indian economy. This should be resolved and rectified. Even though external debt may assist nations with capital shortages to achieve faster economic development, it's possible that this debt will lead to even more external borrowing, creating a vicious cycle.The twin deficit theory is often employed to explain this inflow of foreign resources. There is a link between a country's fiscal deficit and its current account deficit. Empirical investigations have yielded a mixed bag of results. Some research concludes that the fiscal deficit has no impact on the trade or existing account deficits, while others find that the fiscal deficit causes the trade deficit. In the context of the Indian economy, many important indicators, including the debt service ratio, debt-GNI ratio, and short-run debt to total ED ratio, showed that India's foreign debt situation was within acceptable boundaries when compared to other indebted nations.

There are also models constructed to show the dynamic when a government budget deficit is financed by debt: in the short run, the current account deficit rises, causing debt to rise; however, in the long-term, the greater production created by extra capital might result in a current account surplus, thereby lowering the buildup of debt.During the 1980s, Khanna (1992) highlighted India's balance of payments and foreign debt situations. Dhar and Rao (2014) investigated the factors that contributed to India's worsening current account deficit from 2005-06 to 2013-14. In light of the theoretical and empirical linkages between foreign debt, fiscal deficit, and current account deficit of nations, this study uses the Granger causality econometric approach to analyse the effect of deficits and external debt increases on the Indian economy from 1990 to 2020.

4.2 Review of Literature

Chenery (1950), Chenery and Bruno (1962), Roy Harrod (1939), EvseyDomar (1946), and Thirlwall (2006) discussed the importance of external debt in bridging both the investment-savings and import-export gaps when analysing the development process. For this, they developed a dual gap hypothesis that relies on the accounting framework for national income. While acknowledging the existence of a development gap in emerging nations, the dual gap also provides methods for financing these gaps by borrowing money from outside. A country may invest more than it saves or spend more than it earns if the conditions are met and it has an excess of imports funded by external borrowings, as explained by Thirlwall (2006). According to the national accounts, a country that in-

vests more than its savings would have a balance of payments deficit, which is shown in the national accounts as an excess of imports over exports, or as a surplus of expenditures over revenue. A dual gap analysis shows the rate at which foreign borrowing is necessary to attain the specified growth rate. According to the hypothesis, the investment-savings gap and the import-export gap are expected to be present at the same time. Investment savings and import/export gaps are bridged by foreign borrowings, which are a complement to domestic savings and foreign exchange. The term "domestic resource constraint" refers to a scenario in which the growth objective is more constrained by the investment-saving gap than the import-export deficit. If growth is constrained by the import-export gap more than by the investment-savings gap, it is referred to as growth constrained by foreign resource constraints. Nations with a short-term foreign resource constraint (dominant countries) have a tough time gaining foreign resources from their own resources.

According to Thirlwall (2006), international resources might be allocated to close the gap and achieve the necessary growth rate.Through decomposition analysis, Krumn (1985), Hasan (1999), Ishfaq and Chaudhary et al. (2009), Were (2001), Kemal (2001), Bilquees (2003), and Perez (2007) have highlighted the likely causes of foreign debt buildup in this area of research. Among them are public and private investment; falling government revenues and fiscal deficits, current account deficits and terms of trade; interest rates; currency rates, inflation rates, debt servicing; economic misalignment; and macroeconomic policy instability. Several authors, including Cuddington and Asilis (1990), have emphasised the relevance of internal and external balances in the Dominican Republic's foreign debt issue, which has existed since 1970. Several economists, like Chaudhary and Anjum (1996), have advocated for a sustainable fiscal deficit, citing findings from their study on the Pakistani economy that fiscal deficits may have an influence on macroeconomic variables such as inflation, unemployment, debt stock, and debt payments. During the period 1973 to 1981, Ishfaq and Chaudhary (1999) built a theoretical model and estimated it to demonstrate that Pakistan's budget deficiency and debt operated as "cause and effect."

Giraldo and Mann (1989) examined the effects of many influencing variables on the foreign debt of Latin American nations during a thirty-year period, from 1973 to 1984.The current account deficit was used to support the claim that foreign debt was being used to finance the current account surplus. According to the results, a significant budget deficit was one of the factors leading to the tremendous development of foreign debt in the United States. Decomposition effects have been

used by Ajayi (1991), Mbelle (2002), Samson (2003), and Ahmed (2008) to separate the internal and external components that contribute to external debt buildup. They cited internal causes such as government spending, domestic savings, ineffective macroeconomic policies, and ineffective debt management, as well as external issues such as fluctuating interest rates, exports, external oil shocks, and the country's balance of payments. Two studies, one by Menbere in 2004 and the other by Aremu et al. in 2014, looked at the occurrence of double gaps and the poverty cycle in emerging nations. According to the authors, foreign borrowing is a viable option for emerging nations in order to meet their development targets. To reach a certain development rate, ideas and research have emphasised the relevance of foreign borrowings. Since these are major factors in determining foreign debt, both the trade (import-export) and investment-saving deficits are included in the analysis. For example, in countries like Pakistan, Nigeria, Kenya, and the Caribbean economies, several scholars have shed light on the causes of foreign borrowings.

Researchers, such as Saibu et al., Greenidge et al. (2010), Awan et al. (2011), Alam and Taib (2013); Mulugeta (2014); Lau & Lee (2016), used the cointegration approach to quantify factors responsible for external debt accumulation in selected countries, such as Nigeria; Caribbean economies; Pakistan; Ethiopia; Thailand and the Philippines. These included fiscal deficit, trade deficit, exchange rates and foreign reserves; exports; interest rates; GDP; consumer price index; and quasi money (M2), all of which had a long-term con integrating connection with the external debt. Two studies published by Sulley (2010) and Greenidge et al (2010) using the "Ordinal Least Square" (OLS) technique were utilised by Samson (2003), Anorou et al. (2006), Lekomola (2010), and Sulley (2010) to find out what causes countries like Africa, Tanzania, and the Heavily Indebted Poor Countries to accumulate foreign debt. They found that the fiscal deficit, domestic savings, international interest rates, terms of trade, current account deficits, debt servicing, and the "Real Effective Exchange Rate" (REER) were all important factors in the buildup of external debt. According to Quibria (2006), the twin gaps in developing countries may be shown using models that show that foreign borrowings can be a supplement to bridge the two gaps.

While discussing the value of foreign resources, Nigel and Katharine (1996) and Menbere (2004) emphasised the economic feasibility of resource transfers from capital-rich to capital-abandoned nations. Both nations profit from the transfer of resources, and foreign borrowing is essential. As a result, many emerging economies face a twin imbalance and must depend on foreign borrowing to

bridge both gaps. In accordance with Rangarajan and Srivastava (2003), between 1951 and 2002, the cumulative primary deficit and the cumulative difference between the progression rate and the interest rate contributed to the accumulation of India's outstanding debts. Liu, Fung, and Wang (2005) performed an empirical analysis of the link between the fiscal deficit-to-GDP ratio and the debt-to-GDP ratio for the Chinese economy using a theoretical model. Large fiscal and current account deficits during the 1970s and 2000s were shown to be the primary causes of Pakistan's unsustainable debt situation. Mahmood, Rauf, and Ahmad (2009) developed a theoretical model of the Pakistani economy and determined that the country's unsustainable debt problem was primarily the result of large fiscal and current account deficits. Formerly, it was assumed that a growing current account deficit would lead to a rise in a nation's debt. Mukhtar and Khan (2016) analysed the Pakistani economy from 1960 to 2012, focusing on the long-term sustainability of current account deficits. Using data from 2009 to 2015, Durkalik, Savicevic, and Dimitrijevic (2016) examined how Serbia's trade imbalance led to the country's astronomical foreign debt growth.

Fleeger (2006) researched the link between fiscal deficit and current account deficit for a range of nations and found that the relationship is impacted by a country's level of development, trading zones, and export-import mix. In their econometric analysis of the Pakistani economy, Chaudhary and Shabbir (2005) determined that the budget deficit must be lowered in order to improve the trade balance. Onafowora and Owoye (2006) investigated the link between the Nigerian economy's trade deficit and its budget deficit from 1970 to 2001, analysing both the short- and long-term impacts. The study revealed a unidirectional association between the trade deficit and the budget imbalance. Bluedorn and Leigh (2011) identified substantial evidence supporting the twin deficit theory in seventeen Organization for Economic Cooperation and Development member states between 1978 and 2009. Between 1960 and 2012, Sakyi and Opoku (2016) found a statistically significant negative correlation between Ghana's budget deficit and the country's current account deficit. Between 1990 and 2015, Furceri and Zdzienicko (2018) performed research in 141 disadvantaged countries and found evidence for the twin deficit theory. Behara and Yadav (2019) observed that various research durations provided distinct outcomes.

The Indian economy's current account balance was impacted by Granger's budget deficit between 1980 and 2012 and between 1991 and 2012, but there was no evidence of a connection between 1950 and 2012 or 1950 and 1990. According to Banday and Aneja (2019), there is a long-term posi-

tive correlation between China's budget deficit and its current account deficit. As a result of this study, it has been discovered that fiscal and current account deficits may have an impact on a country's foreign debt; conversely, fiscal and current account deficits may have a link. Understanding the link between foreign debt, the fiscal deficit, and the current account deficit is crucial and fascinating to investigate.Over the period 1977 to 2004, Bader (2006) examined the influence of Jordan's twin deficits on the country's external debt, and he discovered that both the budget and current account deficits had a significant impact on the country's ED, as well as the country's ED in general. As Gupta and Jadhav (2012) show, the fiscal deficit, trade imbalance, and foreign currency reserves of an economy all contribute to the country's external debt. According to studies, a 1 percent rise in the fiscal deficit would lead to a 92 percent increase in external debt, while a 1 percent increase in the trade deficit would lead to a 49 percent increase in ED.

4.3 Theory and Model Specification.

Dual gap evaluation, usually known as two gap analysis, is undertaken in the context of foreign aid or foreign borrowing of funds by developing countries in order to achieve necessary economic development. What limitations does the acceleration of investment require to accomplish a given rate of economic expansion in developing economies? This is the issue posed. When selecting an investment, it is crucial to consider the country's domestic savings rate. The Harrod-Domar model, which was often used for development planning, emphasised the savings rate (and hence investment) and capital-output ratio. As per the Harrod-Domar model,

$$g = s/k.$$

Where, g represents GDP growth; s stands for savings rate; and k denotes the capital-to-output ratio. According to this model, an economy's capital-output ratio is assumed to be equal to a constant, and investment and growth are directly related to this ratio.This model, on the other hand, was a closed economy model that did not include international transactions. It is important to point out that every developing nation, even if it adopted an import-substitution growth model, have to be relied on imported capital goods and raw resources for its industrialisation.

Therefore, international commerce was incorporated in the Harrod-Domar model to explain the role of foreign currency required to purchase the capital, intermediate goods, and raw materials required for industrial growth. In response, a term for the international trade balance (i.e. imports minus exports) as a proportion of national income was added to the Harrod-Domar model. The enlarged model of Harrod-Domar was stated in the manner of:

$$\mathbf{g = (s/k) + (b/k)}$$

Where 'b', the added variable, is the difference between imports and exports divided by national income. Even if domestic savings were sufficient to finance the necessary investment to achieve the desired growth rate, the foreign currency required to import essential capital goods and raw materials would be unavailable, as domestic savings and foreign currency (provided by foreign aid and foreign investment) are not perfect substitutes. Thus, additional domestic savings would not compensate for the foreign currency required to purchase capital goods and industrial raw materials at a faster pace than exports. Importing capital goods and industrial raw materials, for example, requires dollars rather than rupees. And the funds may be generated by increasing exports, international aid, or foreign investment. This refers to the foreign currency gap or bottleneck, as opposed to the savings gap necessary to achieve the desired growth rate.

Due to the fact that emerging nations in their early phases of development were unable to generate a significant rise in exports (with the exception of Arab oil-producing nations), they faced an international currency crisis. It was consequently argued that in order to close the foreign currency deficit, foreign assistance or foreign investment was required to assist them in achieving the desired pace of economic growth throughout the 1950s and 1960s. Due to the fact that national savings and foreign currency reserves don't work together, it is important to realise that economic growth can be limited by whichever factor, national savings or foreign currency reserves, is the most limiting.Foreign money (whether foreign aid or borrowed funds) may significantly enhance domestic resources, relieving both domestic saving and foreign currency constraints. As a result, Chenery and Strout (1966) coined the term "dual gap analysis of external assistance." They said that most emerging countries lacked either the domestic savings or the foreign cash to buy the crucial capital goods and raw materials for industrialization needed to accomplish their desired speed of economic growth. In addition, those who favour the two-gap approach often believe that the gaps are of different sizes

and are unrelated, which would mean that domestic saving and foreign exchange can not be substituted for one another. For developing economies to achieve their desired rate of growth, they must increase their investment relative to their domestic savings through the import of capital goods and industrial raw materials. This is why the availability of foreign aid (grants and concessional loans) and private foreign investment is crucial.

The dual gap analysis, developed by Chenery and Strout (1966), serves as the foundation for this study . Similar findings were also made by Alter (1968), and Avromovic (1969). Because of a lack of savings and foreign exchange, they believed that external borrowing was necessary. The foreign exchange deficit is conceptually caused by a shortfall in saving and investment, which therefore necessitates borrowing from abroad. Another gap, the fiscal gap, has been observed by Jeffry Sachs (1989).The saving-investment gap (or domestic gap) and the international exchange gap (or external gap) are cited as reasons a developing economy must turn to external borrowing. Developing nations, which often have low savings rates in the early phases of their growth, are always on the lookout for more funding to support their endeavours. There is a domestic savings gap because private households are unable to generate enough money to cover their annual investment needs. To meet her developmental promises, she must import capital goods, vital raw materials, and intermediate products because of a lack of domestic production and a weak export base. Consequently, a foreign exchange gap exists because demand for foreign currency is higher than supply.

Therefore, a growing nation must seek foreign cash by borrowing to close the difference between these two deficits.Mckinnon (1964), Chenery and Strout (1966), and Gerald M Alter (1968) are credited with pioneering work in the domain of foreign debt. Due to the fact that the majority of the worldwide flow of external resources during the 1960's was in the form of concessional assistance and less in the form of commercial borrowing, their emphasis was on foreign aid rather than external borrowing. According to their theory, every growing economy's ultimate goal is to attain a set rate of increase in per capita income within a given time period. This planned pace of development requires a little investment. However, debtor countries are notorious for their inability to raise sufficient domestic savings to achieve the requisite level of investment. Thus, a "saving-investment gap" emerges between the available supply of domestic savings and the needed level of investment. To achieve the intended growth rate, foreign capital must be brought in to augment local capital throughout the economic development process. As a result, emerging nations seek external financ-

ing throughout their early phases of growth. Chenery and Strout assert that foreign capital inflows have a twofold influence on economic development. To begin with, more resources are made accessible for the creation of additional commodities and services. Second, it permits developing nations to increase their imports in order to meet their developmental requirements. Their study is predicated on the premise that such importable items cannot be manufactured locally owing to technical restrictions or replaced due to structural rigidities. Thus, emerging nations are defined by a "saving-investment gap" that must be closed by the entrance of foreign money.

Similarly, emerging nations need more imports of capital goods in their drive for growth. However, their ability to generate sufficient foreign cash is hindered by a limited export base. As a result, the demand for foreign cash to fund their purchases vastly outstrips the supply. As a result, a gap emerges between the demand for and supply of foreign currency, dubbed the "foreign exchange gap." Thus, developing nations are the need of looking for something else foreign resources in order to close these two interlocking gaps, failing which, achieving the necessary growth rate would remain unattainable.

According to Alter, the amount of foreign resources necessary to achieve the economy's intended rate of development should be equal to the gap between domestic savings and required investment. Increased investment would raise the economy's revenue and, therefore, domestic savings. Once the savings ratio reaches the needed level of investment, the country's reliance on foreign help will gradually shrink. Mckinnon, on the other hand, emphasises the need of borrowing economies increasing their domestic savings rate. If, on the other hand, emerging nations are unable to accumulate sufficient savings to achieve the needed level of investment, their reliance on foreign resources will remain indefinite.

However, these models see foreign capital inflows as mostly comprised of concessional external aid. However, concessional assistance as a percentage of overall foreign debt has been falling., forcing developing nations to borrow extensively at relatively higher commercial rates in an increasingly complicated international financial environment. As a result, the application of Dual gap models to the entry of foreign money into modern developing nations is restricted. Second, foreign capital influx does not immediately turn emerging countries into self-sufficient and self-reliant economies. The increased revenue created by foreign capital should contribute to an increase in the marginal

saving ratio. Given the features of emerging countries and the fact that they are food insecure, increased income would enhance marginal consumption rather than savings. As a result, the limits on increasing domestic savings are intrinsic, and the saving gap is inescapable regardless of the influx of foreign assistance. Thirdly, the underdeveloped technology infrastructure prevents emerging nations from closing the foreign exchange imbalance. Fourthly, even if the foreign debt is granted on favourable terms, the capacity to pay it cannot be increased just by the deployment of more resources. Capacity to export more is crucial. Despite the inherent flaws of these models in the context of developing nations' contemporary development policies, Chenery and Strout's, Mckinnon's, and Alter's theoretical frameworks giving a supplementary function to foreign capital remain a classic study in the debt literature.

One possible explanation for the appearance of dual gaps is as follows. framework for macroeconomic accounting in a free market economy:

$$GDP = C + I + (X - M) \quad (1)$$

The same equation may also be expressed in a different way, as

GDP = C+S (2)

By rewriting (1) and (2), we may get (3) as a relationship between saving and investing.

I = GDP-C-(X-M) (3)

S = GDP-C (4)

The gaps may be calculated by subtracting equation (4) from equation (3).

I-S = M-X (5)

where

GDP = Gross Domestic Product

C= Aggregate consumption

S= Aggregate savings

I = Aggregate Investment

X =Exports

M =Imports

The saving - investment gap (left side of equation 5) and the foreign exchange gap (right side of equation 5) are both shown in the example. If these two gaps are equal in theory, then the accounting connection is correct. However, this is not the case in actuality due to the fact that the variables that produce the saving-investment gap are distinct from those that generate the foreign exchange deficit. In this way, the extent of foreign debt is tied to the size of these two deficits. To a constant other factors being equal, the larger the gap, the larger the magnitude of foreign borrowing will be.

Jeffry Sachs (1989) and Bacha (1990), found an additional gap in defining the external gap, namely the fiscal gap. The fiscal gap is a calculation of the amount by which the government's expenditures and debt commitments exceed its receipts during a defined time period.The following Keynesian macroeconomic framework elucidates the link between these gaps:

$$Y = C + I + G + (X-M) \qquad (1)$$

where C denotes private consumption.

I = Investment in the Private Sector

G stands for government spending.

X equals Exports

M equals Imports

Y = Gross domestic product

Alternatively, the national income identifier may be represented as

$$Y = C+S+T \qquad (2)$$

where S denotes domestic savings and T denotes government taxes.

The magnitude of the deficit, or trade deficit (TD), is defined as

TD = X - M...(3)

By plugging both (2) and (3) into (1) and shuffling things about, we obtain

TD = (S-I) + (T-G)...(4), where S-I denotes the saving-investment gap and T-G denotes the fiscal deficit or fiscal gap.

The external gap, according to equation (4), is the total of the resource gaps created by private savings and investments, as well as government income and spending.

Specification of the Model

Based on the theoretical framework of annual flows, three possible sources of ED inflow have been put forward.The variables are operationalized into three gaps, which are relevant according to the theoretical framework. A causality test based on Granger's (1969) well-known idea is used to examine the relationship between India's yearly outflows of external debt and the saving-investment gap, fiscal gap, and deficiency in Foreign Exchange.

An excess of gross domestic investment over gross domestic savings over an appropriate time period is the saving-investment gap (SIG). The savings-investment gap logically implies that the shortfall in domestic savings that is anticipated to be funded by foreign borrowings to satisfy domestic investment. As a result, the function of foreign resources in enhancing domestic savings in development financing has been established. When it comes to yearly borrowing requirements, theoretically the difference between savings and investments would be shown in the foreign exchange gap.

As a result, it is hypothesised that the

H1: "Saving-Investment Gap" is the root source of the foreign exchange gap.

The occurrence of a reverse connection is another hypothesis that might be tested in order to validate this theoretical link.

H2 :"Savings-Investment gap" is caused by the foreign exchange gap , is also tested.

That the “saving-investment gap” is not due to the foreign exchange gap and that the foreign exchange gap is not due to the saving-investment gap is the null hypothesis (Ho) for both hypotheses.

As a follow-up, we'll look at how the fiscal imbalance affects savings investment gaps. The fiscal gap (FG) is the sum of all of the deficits incurred by the federal and state governments, together. Due to the fact that public spending exceeding public income, the fiscal deficit is created. In the Indian context, the bulk of the public spending is made up of both development and non-development expenditure. The cost of public investment projects is included in the term developmental expenditure. The deficit in government finances results from the government's investment demands exceeding domestic savings.

Therefore, it is hypothesised that

H1 : Saving investment gap that leads to a fiscal gap.

However, the causal link between the saving investment gap and the fiscal gap may be discerned by carefully observing how budgetary deficits are met and how deficit money is used. Therefore, the hypothesis to examine the inverse association is formulated as.

H2: Fiscal Gap is the root cause of the savings and investment gap.

Ho: Both H1 and H2 have competing null hypotheses (Ho) that may be disproved: the fiscal deficit does not create the saving-investment gap, and vice versa.

The annual flows of external debt are another possible relationship associated with the saving-investment gap. In theory, the saving-investment gap produces the foreign exchange gap, which leads to external borrowings. However, the foreign exchange deficit does not correspond to the saving-investment gap. The foreign exchange gap is the result of the building of foreign exchange reserves, changes in net barter terms of trade, remittances from nonresident Indians, debt servicing commitments, and the trade balance. It does not have to exist just to bridge the gap between domestic savings and investment. A significant share of India's external borrowings were associated with the project and technical assistance. As a result this leads us to our third set of hypotheses,

H1 : Saving-investment gap causes ED and

H2: ED does contribute to the savings-investment gap.

The null hypothesis (Ho) here is that saving investment gap do not cause ED and vice- versa.

Considering the finding of fiscal gap as one of the causes of the foreign exchange gap, more recent research has endeavoured to analyse the effect of the fiscal deficit on the current account deficit, sometimes known as Twin deficit analysis. Mundel and Fleming's (1962) theoretical framework established the relationship between the budget deficit and the current account deficit through variations in the exchange rate and the real interest rate. Under a system with fixed exchange rates, expansionary fiscal policy raises real income, which in turn increases imports and trade deficits. Thus, there exists a conceptually robust causal relationship between budget deficits and existing account deficits. The fourth set of hypotheses is thus conceptualised as

H1: Fiscal deficit causes the foreign exchange deficit.

H2 : The foreign exchange deficit produces the fiscal deficit.

Ho: Both H1 and H2 have competing null hypotheses (Ho) that may be disproved: the fiscal deficit does not create the foreign ecxhange gap, and vice versa.

The next set of hypotheses investigates the connection between the budget deficit and the yearly growth in foreign debt. Consistent annual resource contracts are shown to be in excess of current account deficits. This is so because the borrowed money is being used for things like reserve building and regular debt payments in addition to financing the country's current account deficits. It is anticipated that the external borrowings would also be used to fund the investment gap between investment and domestic savings. However, budget deficits would have been displayed simultaneously to show the overabundance of investment over domestic saving. Borrowing from abroad is therefore a direct result of the coexistence of a saving investment gap and a fiscal deficit. Therefore, the nature of causality between the “saving-investment gap” and the fiscal shortfall whereas on the other hand and the yearly flows of external dept on the other remains clouded by some degree of uncertainty. The uncertainty may be resolved by the following hypothesis:

Table 4.1

MODEL SPECIFICATION FOR GRANGER'S TESTS OF CASUALITY

No.	Hypothesis to detect the causal relationship H_1 between		Model specification to test the Hypothesis H_1	No.	Hypothesis to detect the causal relationship H_2 between		Model specification to test the Hypothesis H_2
I	a	SIG ⟶ FEF	$SIG_t = \sum_{j=1}^{n} ajSIG_{t-j} + \sum_{j=1}^{m} bjFEG_{t-j} + v_t$	I	b	FEG ⟶ SIG	$FEG_t = \sum_{j=1}^{n} cjSIG_{t-j} + \sum_{j=1}^{m} djFEG_{t-j} + v_t$
II	a	SIG ⟶ FG	$SIG_t = \sum_{j=1}^{n} ajSIG_{t-j} + \sum_{j=1}^{m} bjFG_{t-j} + u_t$	II	b	FG ⟶ SIG	$FG_t = \sum_{j=1}^{n} cjSIG_{t-j} + \sum_{j=1}^{m} djFEG_{t-j} + v_t$
III	a	SIG ⟶ AFED	$SIG_t = \sum_{j=1}^{n} ajSIG_{t-j} + \sum_{j=1}^{m} bjAFED_{t-j} + u_t$	III	b	AFED ⟶ SIG	$AFED_t = \sum_{j=1}^{n} cjSIG_{t-j} + \sum_{j=1}^{m} djAFED_{t-j} + v_t$
IV	a	FG ⟶ FEG	$FG_t = \sum_{j=1}^{n} ajFG_{t-j} + \sum_{j=1}^{m} bjFEG_{t-j} + v_t$	IV	b	FEG ⟶ FG	$FEG_t = \sum_{j=1}^{n} cjFG_{t-j} + \sum_{j=1}^{m} djFEG_{t-j} + v_t$
V	a	FG ⟶ AFED	$FG_t = \sum_{j=1}^{n} ajFG_{t-j} + \sum_{j=1}^{m} bjAFED_{t-j} + u_t$	V	b	AFED ⟶ FG	$AFED_t = \sum_{j=1}^{n} cjFG_{t-j} + \sum_{j=1}^{m} djAFED_{t-j} + v_t$
VI	a	FEG ⟶ AFED	$FEG_t = \sum_{j=1}^{n} ajFEG_{t-j} + \sum_{j=1}^{m} bjAFED_{t-j} + u_t$	VI	b	AFED ⟶ FEG	$AFED_t = \sum_{j=1}^{n} cjFEG_{t-j} + \sum_{j=1}^{m} djAFED_{t-j} + v_t$

SIG - Saving investment gap
FEG - Foreign exchange gap
FG - Fiscal gap
AFED - Annual flow of external debt

u_t and v_t are uncorrelated

H1: The yearly flows of ED are caused by the fiscal deficit, and

H2 : Fiscal deficits are indeed caused by annual inflows of ED.

That the ED is not due to the fiscal gap and that the fiscal gap is not due to the annual inflows of ED is the null hypothesis (Ho) for both hypotheses.

The foreign currency deficit and yearly flows of external debt make up the final causality test. Since both the saving-investment gap and the fiscal deficit are theoretically supposed to end in the foreign exchange gap, it is the foreign exchange gap that would create the yearly flows of external debt. So, we develop a series of hypotheses to uncover the causal link between the trade deficit and the external debt that accumulates each year. This group consists of:

H1 :The yearly flows of ED are driven by the foreign exchange imbalance.

H2 :The annual inflows of external debt are the root cause of the widening disparity in foreign exchange reserves.

Ho: Both H1 and H2 have competing null hypotheses (Ho) that may be disproved: yearly flows of ED are driven by the foreign exchange imbalance, and vice versa.

Variables and Data Used.

The important variables used are Annual flow of External Debt (AFED), Fiscal Deficit (FD), Current Account Balance (CAB) as a proxy for Foreign Exchange Gap (FEG) and Saving- Investment Gap (SIG) . Data is collected from various sources such as RBI Handbook of Statistics on Indian Economy, CMIE Economic Outlook, and Department for Promotion of Industry and Internal Trade (DPIIT), National Statistical Organisation (NSO). Period of Study is from 1990-2020. Econometric Model used is Granger causality Analysis. The model specification is shown in table 4.1

4.4 Tests of Causality.

For any two time series x and y, where x and y are linearly covariant, Granger (1969) argued that x causes y if using x's historical values to forecast y yields better results than using y's historical values alone. It is hypothesised that there is some kind of relationship between India's “saving-investment gap, fiscal deficit, and foreign exchange gap, on the one hand, and the country's yearly flows

of external debt", on the other, and this relationship is tested using Granger's Tests of causality. Within the framework of Granger's tests for causality, unidirectional causality is said to exist if the estimated coefficients on the lagged variables of all H2 equations are substantially different from zero and the estimated co-efficients on the lagged variables of the relevant H1equations as a group are not significantly different from zero.

Granger's causality tests rely heavily on choosing an adequate lag time for the two causal factors. It is standard practise to choose a lag duration that produces white-noise residuals, a condition necessary for Granger's causality tests. The rejection of the no-Granger-causality null hypothesis is shown to be very sensitive to the choice of lag duration by Thornton and Batten (1985). Therefore, in order to determine the best lag length, the current tests of causation used lags ranging from one year to five years between each gap variable and the yearly flows of foreign debt. The appropriate lag length is determined by calculating the F statistic for each equation using the estimated co-efficients up to a lag of five years in each causative variable. It was also shown that the estimated F statistic indicated the maximum degree of significance only at the 1-year lag, despite the fact that lags of 1-3 years were also examined. Therefore, just a 1 year lag was included in the casual variables for all six sets of equations. The standard joint F test, in which the equation is calculated in both restricted and unconstrained form, is used to conduct all of the causality tests for each hypothesis.

Given is the F-value.

$$F = \frac{RSS(R)-RSS(UR)/r}{RSS\ (UR)\ /n-k}$$

RSS (R)= Residual sum of squares of Restricted equations

RSS(VR) =Residual sum of squares of unrestricted equations Number of restrictions

r = Number of restrictions

n. =Number of observations

K =Number of independent variables in the unrestricted equation

4.5.Conclusions from Granger's Tests of Casuality

Granger's tests of causation provide useful information. Interestingly, in the Indian context, according to the findings of H1 and H2 of first set of hypothesis, the effect of the savings-investment difference on the foreign currency imbalance, and vice versa, is negligible.. The lack of causality arises from the fact that the foreign exchange deficit does not have to represent a scarcity of domestic savings compared to domestic investment. There are many additional factors to consider.

Table 4.2

Conclusion drawn after Grangers Test of Causality

NO.		Causal Relationship from x to y	F Value	Levels of Significance	Statistical Inference.	Direction of Causality.
I	a H_1	`SIG causes FEG	3.14	Not significant at 5% level	Accept H_0	SI gap does not cause the FE gap
	b H_2	FEG causes SIG	2.43		Accept H_0	FE gap does not cause the SI gap
II	a H_1	SIG causes FG	7.89	5% level	Reject H_0	SI gap causes the fiscal gap
	b H_2	FG causes SIG	3.56	Not significant	Accept H_0	Fiscal gap does not cause SI gap
III	a H_1	SIG causes ED	6.78	5% level	Reject H_0	SI gap causes the annaual flows of debt
	b H_2	ED causes SIG	27.97	1% level	Reject H_0	External debt causes the SI gap
IV	a H_1	FG causes FEG	9.05	1% level	Reject H_0	Fiscal gap causes the FE gap
	b H_2	FEG causes FG	6.90	5% level	Reject H_0	FE gap causes the fiscal gap
V	a H_1	FG causes ED	8.99	5% level	Reject H_0	Fiscal gap causes the External debt
	b H_2	ED causes FG	10.44	1% level	Reject H_0	External debt causes the fiscal gap
VI	a H_1	FEG causes ED	7.77	5% level	Reject H_0	FE gap causes the external debt
	b H_2	ED causes FEG	21.99	1% level	Reject H_0	External debt causes the FE gap

Source : Authors own computation.

SIG : Saving Investment Gap

FEG: Foreign Exchange Gap.

FG : Fiscal Gap

The Null Hypothesis (H_0) is that x does not causes y.

ED : External Debt

As a result, Experiments have shown that the saving-investment gap causes the budget deficit (Theory holds good).The reverse relationship hypothesis is rejected. The approval of H1 and H0 in second set of hypothesis shows that India's fiscal deficits are caused by an excess of investment over domestic savings. As a result, it has been experimentally demonstrated that the difficulties in

accumulating sufficient domestic savings to achieve the required levels of investment are contributory factors of India's fiscal deficit.

The causal link between the saving-investment gap and India's external borrowings are created directly, rather than via the foreign exchange deficit, as the theory of dual gap proposes . Acceptance of this concept suggests that India's foreign borrowings are a result of saving investment inequality. The hypothesis regarding the opposite link, namely that India's external debt flows were the cause of historical domestic resource shortfalls, is well supported. Now because of that, the importance of foreign resources in replenishing India's internal savings is firmly substantiated, as shown by the regression analysis.

However, adopting the hypothesis that the fiscal deficit causes the foreign exchange gap has a higher degree of significance than accepting the hypothesis of reverse causation. It clarified the direction of causation between India's budget deficits and existing account imbalances. Thus, the considerable association with the budget gap and existing account deficits is demonstrated to not only be compatible with theory but also to complement the conclusions of prior empirical studies conducted in this area. Thus, from our results, bidirectional causality between the fiscal and foreign exchange gaps was discovered.

When it came to determining the nature of causality between the budget imbalance or fiscal deficit and external debt flows, there was a lot of uncertainty. The outcomes of the hypotheses H1 and H2 (at 1% level) in the fifth set of hypothesis clarify the uncertainty. The findings imply that the fiscal deficit and foreign borrowings are linked in two ways. A logical exercise is used to find an explanation for this both-way causality. The fiscal deficit creates the foreign exchange deficit and the foreign exchange deficit generates yearly debt flows.

As a result of deductive reasoning, the fiscal shortfall is projected to produce yearly external debt flows, which is approved under Granger's causation test. As a result, the fiscal deficit may be understood as causing yearly debt flows via the foreign exchange disparity. Likewise, adoption of the hypothesis that yearly external debt flows generate the budget shortfall is sought logically once again. Accepted H2 of third set of hypothesis, states that external borrowing flows generate saving investment gaps, and accepted HI of second set of hypothesis states that the fiscal gap is caused by the saving investment gap. Consequently, it is predicted that the fiscal gap is caused by the flows of external borrowing .As a result, it is clear that yearly inflows of foreign resources cause fiscal

deficits by masking savings investment inequalities. Foreign currency and saving investment gaps influence the direction of causality between fiscal deficits and external resource flow, and vice-versa. The influence of the “saving-investment gap”, on the other hand, is shown to be greater . Budgetary deficits are determined by factors other than the foreign exchange imbalance.

The sixth set of Granger's causality tests shows that there is a two-way link between the foreign currency gap and the amount of money borrowed from outside the country. In principle, the deficit in foreign currency reserves is where the money to borrow comes from. The hypothesis establishing this connection is supported on the basis of its statistical significance. This theoretical connection, however, seems to be at odds with the reverse causation hypothesis, which is also significant at a higher level of significance. The savings-investment gap and the fiscal deficit, both of which are created by annual flows of external borrowing, may work in tandem to account for the inverse causation. Both hypotheses are supported by evidence at the highest levels of statistical significance.

4.6 Summary.

Granger's causality tests provide strong evidence that resource gaps, such as the “saving-investment gap”, fiscal deficit, and foreign exchange shortfall, are the primary drivers of India's external debt flows. However, it turns out that the reverse causal relationship is more important: annual external loan flows are what really produce these resource disparities. As shown by the direction of causation between annual external loan flows and these gaps, externally borrowed resources were employed to bridge these resource gaps. To put it another way, the “saving-investment gap and the foreign exchange gap” are directly at odds with the results of the causality tests used to identify which way the gaps run. Second, the savings-investment gap that has plagued India's budget deficits since 1990 has had little effect on the country's trade imbalances. Third, it is shown that the evidence that budget deficits cause existing account deficits is bit stronger than the evidence that existing account deficits cause budget deficits. Fourth, the notion that India's development plan relies on foreign borrowing to complement domestic savings in order to fulfil the requisite levels of investment is empirically substantiated. Thus, there is no doubt that India's economic progress has been positively impacted by externally borrowed resources.

CHAPTER 5

A MACROECONOMIC ANALYSIS OF THE IMPACT OF EXTERNAL DEBT IN INDIA

5.1 Introduction

External public debt generated Therefore, government borrowing does not operate in isolation; rather, it is an integral part of a nation's overall economic (financial) system. It has several layers of interaction with the economy and interacts with it in a variety of ways. In addition to the fact that external government borrowing is a component of fiscal policy and has an impact on the growth of a competitive economy on an equal footing with taxation, monetary policy, and foreign exchange policy, it is also, among the most common idioms used, significant criteria for the establishment and development of contemporary economic (financial) systems. Many countries are facing an increase in their external public debt, which is threatening their macroeconomic stability. The prospect of significant economic disruptions and challenges in countries whose foreign debt growth rises to the point of becoming a debt crisis exists. As a result of the many advantages that foreign borrowing offers, many governments are reluctant to abandon it, which is a surprise. A major concern for all economies is improving the management, evaluation, and forecasting of external public debt in light of the existing regions of sensitivity to debt-related consequences. If the external public debt and economic development of a nation are not initially monitored and analysed, it will be impossible to manage the nation's external public debt and economic growth. This will ensure information objectivity and enhance the quality of management decisions.

During the 1990s, the Indian economy was beset by serious domestic and international economic problems. The most critical of the international economic issues was the unfavourable trade bill coming from the Gulf crisis and the Iraq-Kuwait War. This resulted in a slew of domestic economic problems, including rising inflation, a big budget deficit, and the resulting spillover effects on the country's "balance of payments" (BoP). The country's economic position had worsened to the point that investor confidence had been harmed. It's worth mentioning that rating agencies reduced credit ratings. India's credit rating during this time period was important. The Indian government proposed a series of corrective steps to strengthen the economy and restore it to normal levels, including long-term structural changes as well as short-term strategic plans, which included a focus on foreign

resources to fill the gap created by domestic resource depletion. Exchange rate adjustments, exceptional financial mobilisation, budgetary correction and consolidation, international

Long-term structural reforms in trade regulation, and industrial policy were among the long-term structural reforms. These reforms aimed to make India's economy self-sufficient, self-reliant, efficient, and competitive, among other things, in order to increase capacity and facilitate exports. The short-term remedial steps centred on expenditure cuts and securing IMF borrowings below the modified compensating and facility for funding contingencies to repair the balance of payments account.The Indian government's short-term activities led to a growth in the country's foreign debt. Although foreign debt may be used to plug gaps in an economy, it also has its own set of benefits and drawbacks that need to be debated constructively. If foreign debt is adequately managed and maintained within safe parameters, the advantages will accrue; otherwise, it will have a detrimental influence on the country's macroeconomic stability and lead to a debt trap. The relevance of India's foreign debt in terms of the country's macroeconomic performance has been stressed throughout this chapter. The phrase "macroeconomic performance" refers to an assessment of a country's progress toward the fundamental objectives of its government policy. The aims of economic policy are to ensure economic growth and macroeconomic stability while simultaneously enhancing the real living standards of the population. The overall outcome of a country's performance is assessed in reference to the development policy objectives. As a consequence, macroeconomic performance may be described as an evaluation of the economy as a whole based on the performance of a number of sectors.

5.2 An Overview of India's Macroeconomic Progress in the Context of the External Debt Scenario

To perform research on the influence of external debt on macroeconomic variables in the Indian economy, it is necessary to examine the history and current levels of macroeconomic conditions in India, which are closely linked to external debt policies and legislation. The following is a summary of notable macroeconomic improvements in the Indian economy during the 1990s that have had a substantial impact on debt flows or have been impacted by debt flows. This approach is crucial because it assists us in identifying the key factors that are impacted by debt flows and developing a conceptual systematic analysis.

I.The period of the Bop crisis

India's imports expanded faster than exports in the early 1990s due to a decrease in production and increasing consumption, resulting in a massive trade imbalance. The unfavourable trade balance was driven by a partial loss of exports to Middle Eastern nations and an augmentation of imports bill for Petroleum, Oil, and Lubricant (POL) due to the Gulf crisis and the Iraq-Kuwait War. During this period, the current account deficit was so large that even a capital account surplus could not cover it, and foreign reserves were tapped to cover the gap.Furthermore, owing to local political concerns at the time, the budget deficit was unusually large, which exacerbated the already poor BoP account. The government's deficit financing mechanisms raised the money supply (M3) and produced inflationary pressure to counteract significant budget imbalances. The Indian economy has deteriorated due to a large budget deficit, a worsening current account, and political uncertainty in the nation.

Indian planners devised long-period and short-period action plans to address structural imbalances. Mobilization of exceptional financing, fiscal correction and consolidation, foreign trade regulation, and industrial and trade policy reforms were among the long-term plans aimed at enhancing the productivity of the Indian economy, its competitiveness, exports, and foreign exchange avenues. As part of the new industrial strategy, the liberalised foreign investment policy removed several limitations and created multiple channels for foreign investment, while the foreign trade liberalisation policy phased in various export promotion programmes. Reduced spending, import limits, external aid mobilisation, and obtaining financing from bilateral sources and financial institutions at concessional rates were among the early initiatives aimed at addressing BoP account and budget imbalances.

Other measures taken by the government to address fiscal and BoP imbalances include the State Bank of India's India Development Bonds Scheme, which was launched to attract foreign investment, and conditional borrowing from the "International Monetary Fund" (IMF) under the Extended Fund Transfer Scheme (EFF). Borrowings in the process, combined with external borrowings to finance a worsening current account deficit, resulted in a significant growth in foreign debt over time. Foreign investment had little impact on the economy during this time.

II. Getting Back after a BOP Crisis

This section covers the years from 1991 to 1997. Initially, GDP growth dropped during the 1991 economic crisis but eventually recovered due to an increase in savings and investment following a resurgence in the manufacturing sector. Rapid rebound and persistent rises in private sector real fixed capital creation in the early 1990s were evidence of high-quality economic reforms in the nation (RBI Bulletin 1994). Improved fiscal indicators contributed to reduced interest rates and improved inflationary pressures. The foreign sector, on the other hand, was stressed during this time period as a result of the acute currency crisis. The government's economic reforms and numerous steps have stabilised the BoP indicators. Compared to the previous year, exports increased, while imports remained the same. As a consequence, the trade imbalance and foreign reserves have improved somewhat year over year.

The stabilisation of the macroeconomic situation and the implementation of structural changes in industrial policy and trade policy during this period suggested that both the domestic and international economies were improving. The short-term strategy of relying on multilateral, bilateral, and other financial institutions for urgent external funding has led to a growth in India's gross foreign debt. However, improvements in the country's "debt-serviceratios" and "debt-to-GDP" showed a more favourable situation. This was largely due to the government's proactive goal of decreasing short-term debt and generating revenue streams that were not tied to debt.

Between 1998 and 2002, the overall rate of economic growth declined year on year. The GDP growth rate has slowed as a result of both domestic and international factors, such as a decrease in the aggregate output of the agricultural and industrial sectors, as well as a sluggish growth rate of exports on the international market, among others. In order to alleviate the situation, the government attempted to enhance aggregate output by implementing incentives and a number of social programs, among other measures. Due to these, programs, the federal government's expenditure enhanced, contributing to financial imbalances. The fiscal imbalances in government accounts have resulted in public sector savings reaching an all-time low, as has the level of government account dis-saving. The overall savings and investment rates increased throughout this time period. The former is as a result of the show's performance of the household section, whilst the latter is influenced by the success of the corporate sector.

The index of inflation increased as a consequence of a variety of international and domestic factors, including decreased crude oil prices, higher agricultural output, and the stability of the industrial

sector. Despite the tough environment created by the East Asian crisis, the foreign sector developed slowly and maintained a positive balance of payments in spite of the difficulties. Excess balance of payment situations, foreign investment flows, and nonresident Indian (NRI) deposits all contributed to a growth in foreign reserves. The measures of foreign debt have been improving steadily in recent years. The gross external debt increased during this period as a result of a surge in NRI investments. The transformational shift method of measuring gross external borrowing is also cited as a contributing factor to these shifts.

III . Reviving form the Crisis

The period ranging from 2003 to 2007, witnessed a positive change in the form of revival from the debt burden. Because of increased output in the agricultural, manufacturing, and industrial sectors, as well as improved macroeconomic parameters, the Indian economy expanded at a spectacular pace of Nine percent of the first few years of this period of development. As a consequence of higher company savings, lower government dissaving, greater retained profits, and improved household sector holdings, the saves and investment rates have also climbed significantly in these years. The enactment of the Fiscal Responsibility and Budgetary Management (FRBM) Act, which resulted in increasing revenues while keeping expenditure within appropriate limits, led to a little improvement in fiscal indicators.The legislation's primary goal was to cut medium-term revenue while also putting out a plan for achieving those goals in the future.

As a result of demand-supply mismatches, lower output, and an unseasonably wet monsoon, the inflation index initially showed signs of deterioration during the recovery phase, but later showed signs of improvement as a result of improved fiscal conditions, increased agricultural and manufacturing output, and lower international crude oil prices. The "balance of payments" (BoP) account improved significantly in the early years, which meant an increase in exports and attractive growth in foreign investment, but the current account position deteriorated as a result of a rise in crude oil prices and a decline in export performance in the following years. This is due to the continued expansion in foreign investment, which has kept the balance of payments in a surplus position. As a result, the country's foreign reserves grew.

Commercial borrowings from abroad, imports, trade credits, foreign-resident institutional deposits, and short-term debt have all increased, contributing to an increase in gross ED. Additionally, because of the redemption of India's millennium deposits, the debt service ratio has increased as well

(IMD). Several domestic and international factors, including improvements in current and capital account situations, as well as changes in the value of the dollar, led to the continuous improvement in external debt indicators throughout this period.

IV. The debt scenario at the time of the global economic meltdown.

From 2008 to 2010, as a result of the global fiscal crisis, general demand and output in industrialised countries were disrupted, and also the speed of global trade. The interconnectedness and integration of economies that have characterised the contemporary period have created issues in the Indian economy as well. Job cuts were taking place, and unemployment rates were growing as a result of widespread pessimism in the external environment. In direct response to the worldwide economic collapse, India's "gross domestic product" (GDP) growth rate decreased to 6 percent. The global financial crisis had a number of implications, not the least of which was a reduction in demand on the global market. With the exception of mining, community, social, and personal services, which had a slight revival, the economy as a whole experienced a slowdown in exports and a decline in the performance of several sectors.

After initially being strong, savings and investment rates began to decline due to weak domestic and international demand, macroeconomic imbalances, structural factors, low company confidence and policy uncertainty. The fiscal indicators likewise showed a diverse pattern of development. They first indicated a deteriorating trend, but later demonstrated a reversal of the trend. The government's expansionary plan, which was implemented to counteract the deteriorating economic environment caused by the global financial crisis, was tied together. In response to the agricultural loan waiver and the recommendations of the Sixth Pay Commission, the expansionary policy resulted in a reduction in tax collections and an increase in expenditure. As a consequence of income inflows from the third generation spectrum auction, the fiscal indicators improved at a later stage. As a result of the below-normal monsoon during this time, the economy's output grew at a slower pace than usual while crude oil prices increased.

Foreign institutional investment grew on the external front, despite the fact that growth in exports and imports remained constant throughout the global financial crisis. Consequently, the current account deficit has increased as a consequence of these adjustments. Increased capital inflows, particularly foreign investment, outpaced rises in current account deficits, resulting in a positive balance of payments on the balance of payments. In addition, the quantity of foreign reserves has grown.

The increase in gross foreign debt during this era was mostly due to fluctuations in exchange rates as a result of the dollar's weakness against major currencies, as well as increased contributions from ECBs, trade credits, NRI deposits, and short-term loans, among other factors. The indexes of foreign debt, on the other hand, stayed within safe ranges. This arose as a consequence of the sound management concept used by Indian planners. Export growth was given top priority, non-debt flows were encouraged, and short-term debt was controlled to keep the economy moving.

V. From the end of the global financial crisis until the start of the pandemic.

The trends from 2011 to 2020, has shown the persistence of favourable macroeconomic fundamentals, the economy has recovered from the effects of the worldwide financial crisis. Although the global financial crisis continued to worsen, the compounded annual growth rate (CAGR) was around 7 percent for the period under consideration.General elections were held during this time period, as well as a spate of economic reforms, including tax modifications, and a bevy of other projects. Most of these initiatives were mainly concerned with financial inclusion in order to connect individuals, labor skill development, as well as manufacturing and service sectors. Saving and investment rates have both declined as a result of declining saving rates in all three sectors of the economy. Lack of internal and external demand, as well as other structural factors, such as delays in site acquisition and environmental permissions, resulted in low investment rates among nonfinancial enterprises.

Initial indications of decline were seen, but they were followed by signs of improvement as a consequence of fiscal consolidation efforts carried out in previous years, which resulted in greater tax collections compared to increasing revenue spending. Even the inflation index indicated a downward trend, though there was some improvement later on. Unbalanced fiscal policy, currency deregulation (particularly of the Indian rupee), a reduction in global commodity prices (particularly crude oil), and increased agricultural output are all contributing to a decrease in the index of inflation.This period saw a slew of changes in the status of the Board of Directors. It was originally under stress, but it has subsequently made a considerable recovery, according to experts. Even a surplus of intangibles would have been insufficient to overcome the current account shortfall. As a consequence, the capital account fell short of expectations in the early years, leading to a reduction in foreign exchange reserves. However, as a result of a slight increase in foreign investment flows as well as an increase in foreign reserves, the capital account eventually showed an overall surplus. The initial depletion of foreign reserves, as well as significant swings in exchange rates caused by the fall of the dollar relative to major currencies, resulted in an increase in gross external debt, ac-

cording to the data. External debt indicators, on the other hand, have improved as a consequence of debt sound management strategies that have concentrated on debt sustainability, solvency, and liquidity in recent years.

5.3 Review of Studies related to the Macroeconomic Impact of External Debt.

In economics, debt accumulation is defined as the result of a balance between consecutive fundamental debts and accumulated proportional additional rising interest rates over a period of time (Rangarajan and Srivastava, 2003). It is not often the debt itself that creates issues for governments, but rather the debt servicing that generates the troubles (Ghosh, 1993). Increasing debt service expenses seem to be a contributing factor to the rise in foreign debt in developing markets. Another factor is that a portion of the debt payment is consumed by the process of getting new external funds, which is referred to as the roll-over procedure (Dhonte, 1975). Indian foreign debt increased at a compound annual rate of 21 percent between 1985 and 1989, according to official data. Because of the high interest payment burden, higher repayment, and depreciation of the Indian rupee, the rate of growth in international debt has picked up speed, particularly in India (EPW, 1989). Prior to the 1991 crisis, India was burdened with a large amount of foreign debt and debt payment obligations. Instead, for a number of reasons, export promotion measures have been ineffective in boosting exports.

In order to cover the gap in external resources, financial market borrowings must be considered as a solution (Verghese and Varghese, 1988). Following a thorough examination of India's debt, deficit, and inflation, it is clear that efforts to address the primary deficit are required, since even the most aggressive application of inflation taxing would not be sufficient to resolve the country's financial predicament (Buiter and Patel, 1992). Indirectly, increased payments on foreign debt had a significant role in the crisis (Cerra and Saxena, 2002). It is possible that growing India's exports and local savings can alleviate the country's foreign debt concerns (Bajpai, 1994). According to Chipalkatti and Rishi (2001), in India, there is a financial revolving door between capital flight and foreign debt that has an impact on India's development in the short term. In the long term, central government debt, increase in Total Factor Productivity, and debt service have all had an impact on India's development from 1980 to 2011. Bal and Rath (2014) developed a formalised a model to show that t is possible that domestic debt, rather than foreign debt, will have a significant influence on economic progress (Singh, 1999). It is possible to reduce risk by shifting from international loans to more domestic borrowings (Panizza, 2008). It was decided to conduct a study of India's public debt

throughout the period 1980-2017 in order to examine the impact of various forms of public debt on investment, interest rates, inflation, and overall economic development. Until now, there has been no proof of a long-term relationship between the two elements. The impulse response function, on the other hand, is a function that captures the short-term relationship between variables. For public debt, especially domestic debt, to be properly managed and used in order to promote the country's economic growth, it must be carefully controlled and utilised more efficiently (Mohanty et al., 2019).

Another study came to the conclusion that foreign debt is positive and has a significant influence on the economic growth of developing Asia. Debt repayment, on the other hand, has an influence on investment contribution (Siddiqui and Malik, 2001). Actual resource transfers from the developed world to the developing world increase as a result of external debt. This will have a positive impact on the development and well-being of the developing globe. South Asian countries, notably India, have, on the other hand, taken advantage of this opportunity but have failed to maximise its potential. Because the vast bulk of the country's debt is significantly subsidised, the country's external debt and debt payments are not very large. However, if the current trend continues, these South Asian countries will be plagued by debt and debt payments for the foreseeable future (Chaudhary et al., 2001). A major Granger Causality test has been conducted from foreign loan to economic development for South Asian countries, with the exception of India, where foreign loan has been shown to be significantly increasing economic growth.

The debt growth connection for South Asian nations was studied by Siddiqui and Malik (2001). The findings show that foreign debt has a favourable and considerable influence on economic development. When debt exceeds the threshold level, the influence on economic growth is considerably negative (Pattillo, Poirson, Ricci, Kraay, &Rigobon, 2003), but when debt is below the threshold level, the impact is typically positive but negligible (Pattillo, Poirson, Ricci, Kraay, &Rigobon, 2003).Dinneya (2006) looked at another component of the debt-growth connection in the context of the Nigerian economy, looking at the roles of power shifts, governance quality, political climate, and general degree of democratisation, among other things. Cordella, Ricci, and Ruiz-Arranz (2010) investigated how a country's amount of debt affects investment and growth. According to their study, indebtedness has no influence on investment in highly indebted nations or countries with low quality policies and institutions, but it has a negative effect on investment in less indebted

countries or countries with, high quality policies and institutions. The link between economic growth and national debt leads to comparable results.

Hwang, Chung, and Wang (2010) looked at twenty Asian and Latin American countries from 1982–2004 and found a twoway association between financial development and economic growth; they a lso found that excessive debt impedes financial sector development and hence reduces economic gr owth.. Over the period 1946-2009, Reinhart and Rogoff (2010) found no association between GDP growth and debt/GDP ratios for industrialised nations until debt/GDP ratios exceeded the threshold levels (90 percent). For the period 1970-2009, comparable findings may be seen for rising nations. Butts et.al. (2012) discovered a long-run positive and substantial link between short-period foreign debt and Thailand's economic development from 1970 to 2003, and that a short-period change in GDP Granger drives short-term debt. Bal and Rath (2014) found that central government debt, total factor productivity, and debt services influenced Indian economic development in the short run between 1980 and 2011, and that there is a long-term link between economic growth and public debt. For twelve Central and Eastern European nations from 1995 to 2014, Ciftçiolu and Sokhanvar (2018) found unidirectional causality from foreign debt to economic development in eight of the twelve countries evaluated.

For the period 1990-2015 in Oman et. al.(2018) found a substantial and negative effect of debt-to-GDP ratio on GDP growth rate. Using the least squares approach in its most basic form External debt has a detrimental influence on India's economic development from 1990 to 2015, according to Saxena and Shanker (2018). Abdelaziz et al. (2019) used the SUR method to analyse the impact of debt on production and productivity in a sample of 12 countries with low debt and 11 countries with high debt. The findings show that ED has a negative influence on investment and growth for both the split models and the overall sample. Gyimah-Brempong (1991) used cross-section data from 1960 to 1986 to explore the link with exports instability and economic development in Sub-Saharan African nations. There is a negative link between the variables for several indicators of export instability. For the period 1970-87, Kugrowth led exportsr (1991) examined six countries:,“West Germany, the United States,France, , Switzerland,Japanand the United Kingdom”. He found support for export-led development in only France and West Germany. Ghatak and Price (1997) looked at the Export led growth hypothesis for India from 1960 to 1992, taking into account different sorts of exports. The Export led growth hypothesis is shown to be unsupported at the aggregate level; however, it is found to be a non-traditional export based on demographic assistance, but not for tradi-

tional exports. El-Sakka and Al-Mutairi (2000) looked at the connection between Arab nations from 1970 to 1999. The findings show that there is no long-term link between exports and economic development in any of the nations. To put it another way, nations provide a mixed bag of outcomes.
In the period 1950-1996, Chandra (2003) investigated the "Export led growth" and Growth led exports theories. In research spanning 141 developing nations, Gabriele (2006) discovered a substantial link between GDP growth and service export growth for the years 1980-2000. In the example of India from 1971 to 2005, Kaushik et.al. (2008) discovered a long-term association between export growth, export instability, investment, and economic development, as well as a unidirectional Granger causation going from real exports to real GDP. For the period 1970-71 to 2008-09, Afzal, Rehman, and Rehman (2009) found evidence for the Growth led exports theory in Pakistan. Bahmani-Oskooeeet.al. (2009) investigated the long-run link between GDP, capital and labour stocks, export and import for 62 developing nations from 1960 to 1999, noting that the findings are country specific. Sulaiman and Saad (2009) found a favourable association between Malaysian exports and economic development from 1960 to 2005 using a multi-variable model. Over the Indian economy, Guru-Gharana (2012) employed a better Granger causality test, and the findings show that the "Export led growth" hypothesis is supported for the period 1971-2008. Ndoricimpa (2014) did a panel data analysis for seventeen COMESA nations from 1980 to 2011 and found that two countries supported the "Export led growth"hypothesis and two countries supported the Growth led exports hypothesis. It should also be emphasised that Export led growth does not apply to nations that export primary products.

Sannassee, Seetanath, and Jugessur (2014) used a meta-analysis to figure out why various empirical studies produced varied findings. Exports have a lower influence on growth for nations with a low degree of development, according to the research, which included eighty-two papers and 447 observations. Between 1911 and 2011, Ajmi et al. (2015) looked at the interaction between South African nations. There is no link identified in the linear Granger causality test. While utilising the Hiemstra and Jones test to find non-linear Granger causality, a unidirectional causation from GDP to Exports is discovered; when using the "Diks and Panchenkotest",bi-directional causation is discovered.Exports impacts GDP for short and long period, according to Bastola and Sapkota (2015), who studied Nepal from 1965 to 2011. During the period 1973-2013, Saleem and Sial (2015) found proof to collaborate both the Export led growth and Growth led exports theories in their research on Pa-

kistan. For the Korean economy between 1980 and 2015, Berasaluceet.al. (2017) found no direct relationship between exports and FDI on GDP.

Ahmed et al. (2000) discussed the association between economic rise and exports for each of eight countries from 1970 to 1997 in Asian especially the nations, which were the most populous in the world. Their research supports the export-led development theory, but when debt servicing growth rates are included into the model, the findings are not consistent across nations. Afzal et al. (2009) investigated the link between economic growth, foreign debt payment, and exports in Pakistan from 1970 to 2008. Their research found unidirectional causalities between GDP and exports, as well as debt servicing and GDP. Saad (2012) found For Lebanon between 1970 and 2010, we find a bidirectional link between GDP growth and interest payments on foreign debt, a unidirectional causation from exports to GDP growth, and a unidirectional causality from interest payments on foreign debt to exports. Exports cause economic growth that causes foreign debt, but exports do not cause external debt in the short run, as shown by Dritsaki (2013) for Greece between 1960 and 2011. Long-period economic growth is also a factor in the sustainability of external debt.

5.4 Methodology and Model Specification

In attempt to elicit the impact of ED on India's macroeconomic performance, the researcher examined a number of research papers, journal articles, working papers, news reports etc. including both national as well as international level. To imbibe a greater idea on the macroeconomic scenario of external debt in India, external debt status reports, economic surveys, and other reports published by the Indian government were also analysed. On the basis of the detailed and comprehensive review on the given literature, the researcher identified four variables that is mostly affected by the outstanding external debt in India, this in turn seriously affects the country's macroeconomic performance. The variables that are identified to be significantly impacted by the outstanding external debt and are the basis of our further analysis are GDP, GFD, FDR, FDI Inflow and Net Exports. Using the Vector Error Correction and ARDL with error correction model, the influence of Outstanding external debt on selected variables is investigated.The data are collected from various sources such as RBI handbook of Indian Economy, CMIE Economic Outlook, and “Department for Promotion of Industry and Internal Trade” (DPIIT). The variables are in Millions Indian Rupees. The variables are abbreviated as follows: “Outstanding External Debt (OEXD), Gross Domestic Product (GDP) Net Export (NX), Gross Fiscal Deficit (GFD), Foreign Exchange Reserves (FXRES), and Foreign Direct Investment Inflow (FDI), Real Effective Exchange Rate (REER)”

Data

The data collected from various sources such as RBI handbook of Indian Economy, CMIE Economic Outlook, and DPIIT. The variables are in Millions Indian Rupees. The variables are abbreviated as follows: Outstanding External Debt (OEXD), Net Export (NX), Gross Fiscal Deficit (GFD), Foreign Exchange Reserves (FXRES), Real Effective Exchange Rate of 36 currency basket (REER) and Foreign Direct Investment Inflow (FDI). Though most of the variables are nominal values, REER is a rate, for which we also take log of all variables for a specific analysis.

5.4.1 Trends and pattern of the dependant variables.

High amounts of debt may create vulnerabilities, exposing individuals, corporations, and governments to mismatches, such as obligations expiring quickly but assets maturing later, as well as solvency worries. Additionally, excessive debt may expose the economy to asset price changes, amplifying shocks and macroeconomic instability. Government debt is often regarded to be a critical macroeconomic indicator that influences and defines a country's image in international markets). A country's image on a worldwide scale is crucial for commerce, investment, and a variety of other critical international contacts. It is important, therefore, to determine whether government debt is advantageous or detrimental to macroeconomic variables such as economic growth, poverty, investment, and education, given that the global average debt to GDP ratio is anticipated to increase in the near future. This deduction is critical in helping both developed and developing countries to make prudent and informed public debt policy. In the light of this, the major macroeconomic variables that are found significantly impacted by the external debt in India are identified as “Gross domestic product, Gross Fiscal Deficit, Foreign Exchange Reserves, Foreign Direct Investment Inflow and Net Exports”. Given below is the analysis of the trends and pattern in the explanatory variables.

(ii) Gross Domestic Product.

The GDP measures the economic worth of all final goods and services produced within a nation's boundaries over a certain time period. Since it is a wide measure of total domestic output, it gives a complete view of a country's economic health.External debt accumulation can have serious and significant impact on GDP growth rate of an economy. Consequently, the manufacturing sector absorbs a larger share of total employment while the share of non-tradable capital to total capital declines, contributing to higher economic growth.

The bad effect manifests itself in the following manner: the country's risk premium and total interest payments on external debt both increase in tandem with an increasing proportion of foreign public

debt to GDP. As a consequence of this, disposable income in households goes down, the savings-to-GDP ratio goes down, and resources for capital accumulation go down, all of which contribute to a slower pace of economic expansion. Inflation of the real exchange and the transfer of resources to the tradable sector drive economic development, but when the foreign public debt to GDP ratio is high, resources leave the domestic economy (high burden of external debt) and savings fall as a percentage of GDP. This takes place when there is a lot of public debt owed to other countries compared to the size of the economy as a whole. Thus, foreign debt may have a nonlinearly negative effect on GDP. Therefore, although a rise in the ratio of international government debt to GDP may stimulate expansion when debt levels are low, it may dampen expansion when debt levels are high.

Figure 5.1

The relationship between the proportion of external public debt to GDP and the rate of growth of the economy in the steady state.

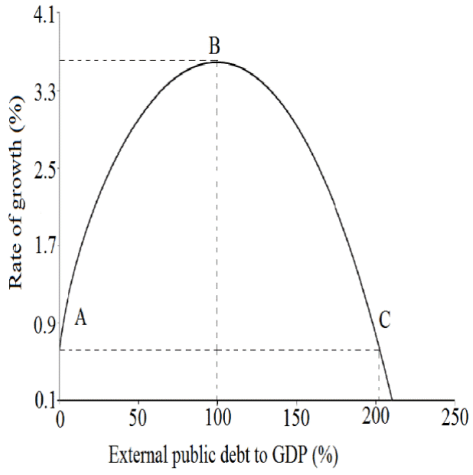
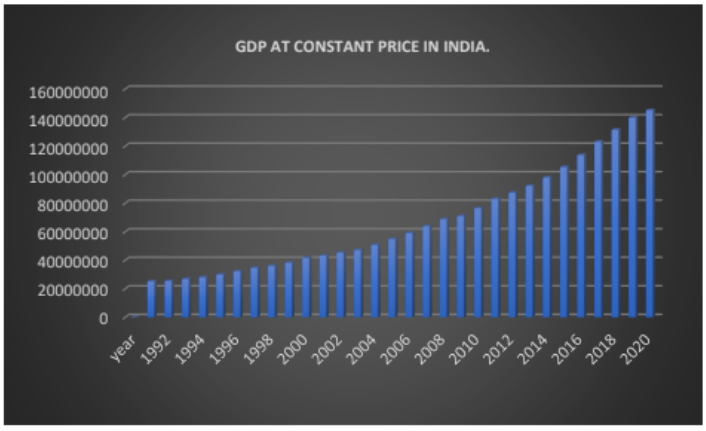


Figure 5.2

Trend of GDP Growth in India (at constant prices).



Source : RBI Database.

The above figure shows the GDP Growth at constant price in India. It is observed that initially when debt to GDP ratio was high, the GDP growth was meagre but when external debt was managed effectively through various external policies and reform measures, the debt flow declined rapidly which in turn affected the GDP to blossom at a good rate. It is also to be noted that some amount of debt is good as it can enhance the developmental activities.

(iii) Foreign Exchange Reserves.

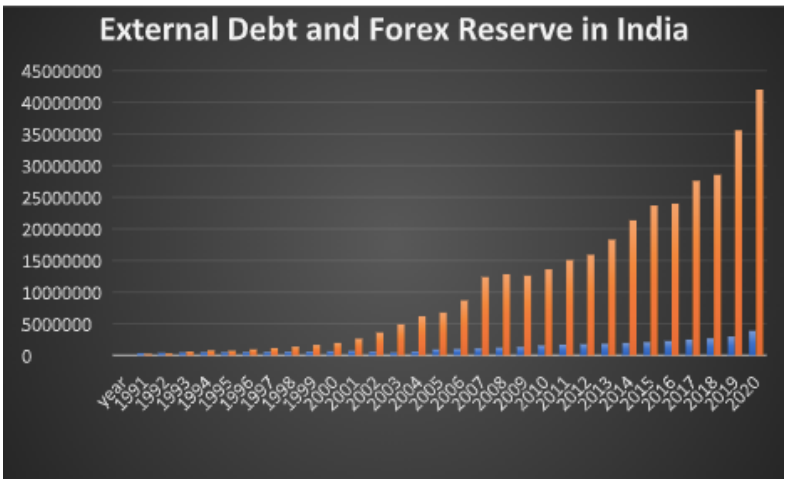
"Foreign Exchange Reserves are assets that are held in foreign currencies by the central bank. These assets may include bonds, treasury bills, and other government securities". It's worth noting that the vast majority of foreign currency reserves are stored in US dollars. India's foreign exchange reserves comprises the Foreign Currency Derivatives,Special Drawing Rights, Reserves of gold, Reserve Position with the "International Monetary Fund's". The Purposes of Keeping FER includes, Supporting and sustaining trust in monetary and exchange rate management strategies, capability of intervening in favor of the national capital, reduces a country's dependence on the outside world by keeping enough foreign currency on hand.Apart from that, for the Government, The growing currency reserves provide reassurance to the government and RBI as they manage India's foreign and domestic financial difficulties as it can acts as a buffer in case of an economic and Balance of Payments (BoP) crisis.Increased reserves have also aided the rupee's strength versus the dollar.Reserves reassure markets and investors that a government can satisfy its external commitments. It is important to analyse if the external debt is having any impact on forex reserve, long-term and short-term.

The expansion of government spending facilitated by foreign borrowing imposes a massive burden on the country. This is because the soaring foreign debt stock creates a massive debt service requirement that has absorbed a significant portion of the national budget over the years, hindering national production potential. The repayment of an external debt stock and interest often referred to as debt service places a tremendous strain on a nation's international reserves owing to the fact that repayments are paid in foreign currency. This indicates that foreign settlements are funded by the sovereign nation's international reserves. They are also utilised to impact the local currency's exchange rate. Thus, international reserves serve the dual goal of capital preservation and liquidity supply to fulfil the people's foreign currency demands. Thus, functioning as a repository of the national currency's international value (Ito and McCauley, 2019) and mitigating the effects of other

negative external shocks on the economy (Espinoza and Winant, 2014). Indeed, it is said that foreign reserves are a significant of debtor country's capacity to repay principle and interest on its external debt (Onwuka and Igwezea, 2014). The following figure shows the trend in Forex reserve and external debt in India.

Figure 5.3

Forex Reserve and External Debt in India.



Source : RBI Database

The above figure shows the trend of external debt and forex reserve in India. The blue bar indicates the external debt burden and the yellow bar indicates the forex reserve. We can see that the debt position of India have improved a lot after the 1990's, especially due to the impact by the economic reforms. The reserve position of India is sustainable with respect to the debt burden , which is a healthy sign of development.

(iv) Net Exports.

When the value of a country's exports is more than or equal to the value of its imports, the difference is called a net export.Net export is a significant component of an economy's gross domestic product calculation. If total exports are less than total imports of goods and services, net exports are regarded to be positive.Similarly, if exports are fewer than imports, the balance of payments is called negative. The positive and negative numbers of net exports enable individuals to see an economy's trade surplus or deficit.A nation with a trade surplus indicates that it receives more money from other countries. In comparison, a trade deficit economy spends more money on overseas purchases.

The net export formula is as follows:

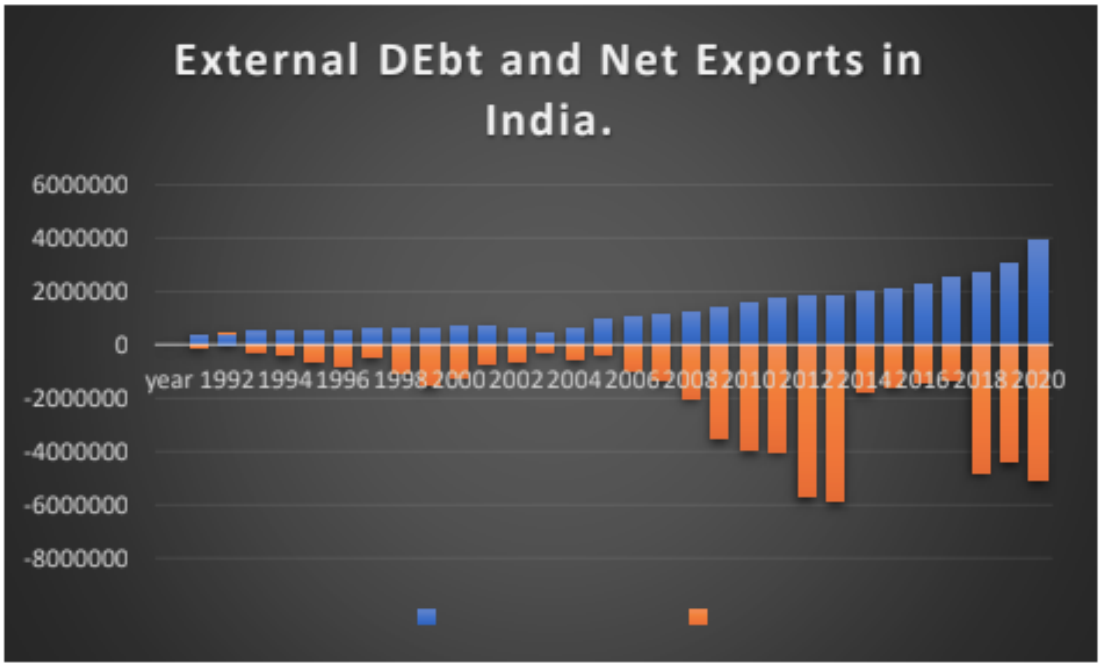
Net exports = Difference in Value of exports to Value of imports.

Where as, when a country sells its goods and services to other nations, it earns foreign currency, which is known as the value of exports. The import value is the amount of credit spent by a nation on products and services from other countries.Net export acts as a barometer of a country's economic progress. A high net export value helps to the nation's GDP and also makes the country an appealing business location. The following figure shows the growth in external debt and net exports in India from 1991.

The following figure shows that the economies net export is always on the negative side except during 1992, which may be due to the effect of reforms undertaken during the 1990's. Numerous studies have been accomplished on the effect of debt on net exports. The estimation reveals that significant positive impact external debt on net exports in the short run. But its effect turns less than zero in the long run, with the debt having a bigger negative effect on net exports.

Figure 5.4

external debt and net exports in India from 1991.



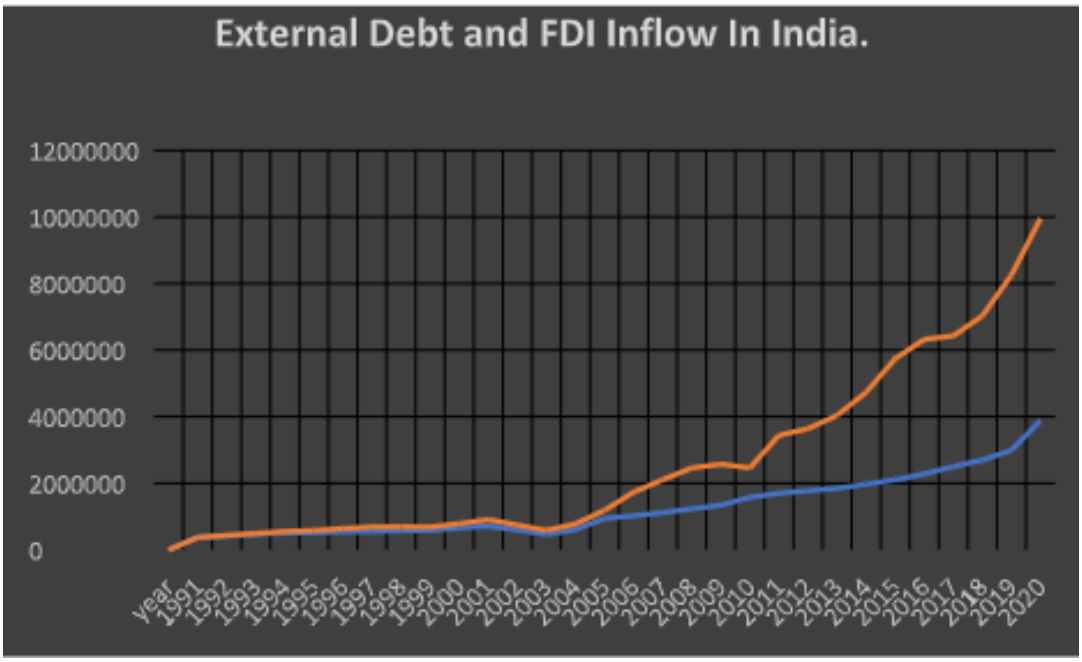
Source : RBI Database

(iv) Foreign Direct Investment.

FDI is a financial investment done by a party from one nation into a company or corporation in another country with the purpose of creating a long-term economic relationship.It is possible by investing in a foreign nation by acquiring a long-term stake or developing a company there.It's not only money that foreign direct investment (FDI) provides; it also includes talents, technology, and know-how.Participating in FDI means that foreign companies are directly engaged in the day-to-day activities of the host nation.It is possible for foreign direct investment to strengthen the economy of the nation by enhancing localenterprises and providing a more advantageous climate for the investors. Emerging economies benefit from foreign direct investment (FDI). Technology spillovers, human capital generation, and international commerce integration are all facilitated by FDI. It is an essential source of financing for India's economic development. It has continuously risen in India since the financial crisis of 1991, when the government started to liberalise its economy.India is presently the world's top greenfield FDI destination and one among the top 100 countries for ease of doing business (EoDB). Singapore remains the top investment country in terms of FDI equity inflow, with the United States coming in second

Figure 5.5

External Debt and FDI Inflows in India.



Source : RBI Database

The above figure shows the trends in external debt and FDI Inflow in India, the yellow line shows the FDI Inflows and blue line shows the debt inflows. Since FDI is a non-debt flows , it can't create

any repayment burden on the economy. The trends indicate a positive position for India as the FDI flow is more than the debt flow in India. This can be attributed to the measures taken by the government to promote non debt creating flows like FDI, FPI and Depository Receipts.

(v) Gross Fiscal Deficit.

The government expressbudugetary deficit of India as "the excess of total disbursements from the Consolidated Fund of India, excluding repayment of the debt, over total receipts into the Fund (excluding the debt receipts) during a financial year".

As a result, the Gross Fiscal Deficit (GFD) is the gap between total expenditures after debt repayments and loan recoveries, and total revenues before interest and taxes but including revenue and ca pital expenditures. It can express as follow:-

Gross Fiscal Deficit (GFD)

= Revenue Expenditure(RE) + [Capital Disbursements(CD)-(Discharge of Internal Debt (DID) + Repayment of Loans to Centre (RLC) + Recoveries of Loans & Advances (RLA)] – Revenue Receipts(RR)

= RE + [Capital Outlay (CO) + Loans & Advances by States (LAS) + DID+RLC – (DID +RLC+RLA)] -RR

= (RE-RR) + [CO+ (LAS-RLA) + (DID-DID) + (RLC-RLC)]

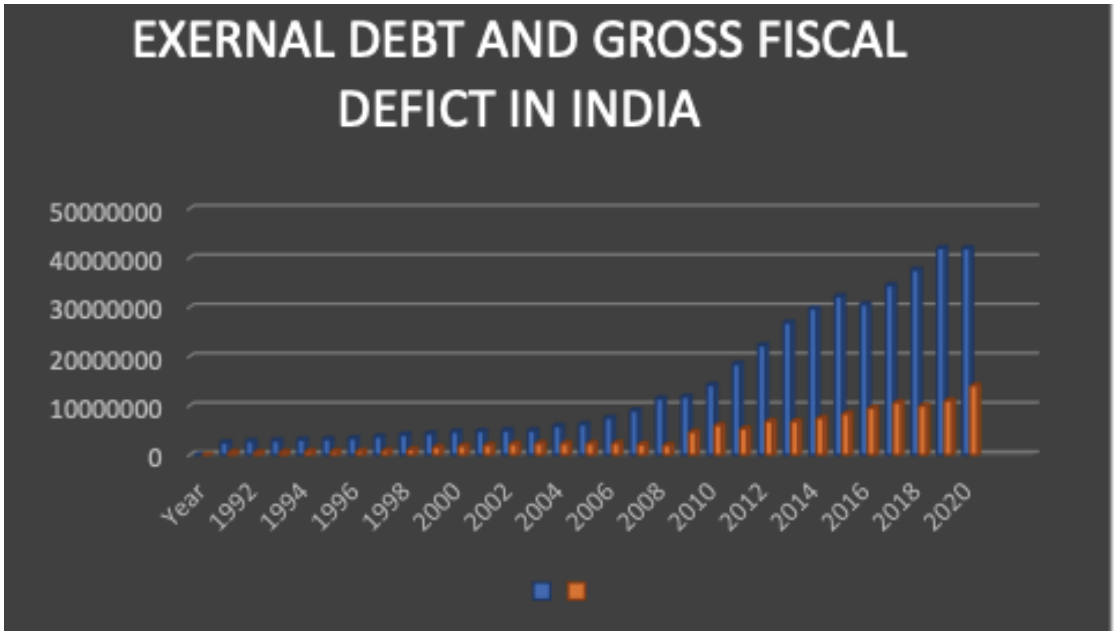
= Revenue Deficit (RD)+CO+ Net Lending (NL)

A big budget deficit may also be helpful for the economy if the money spent goes towards the building of productive infrastructure like motorways, roads, ports, and airports that enhance economic growth and result in job creation. The Fiscal Responsibility and Budget Management Act, 2003 mandates that the Centre shall take adequate steps to contain the fiscal deficit upto 3 percent of the GDP by 31st March, 2021. The NK Singh committee (formed up in 2016) advised that the government should target a budget deficit of 3 percent of the GDP in years up to March 31st, 2020, lower it to 2.8 percent in 2020–21, and to 2.5 percent by 2023.

The following figure shows the trends in gross fiscal deficit and external debt inflow in India. From the figure it is evident that both variables are showing an increasing trend over the period of time and that variation in fiscal deficit is more than variation in external debt. During the initial years of our analysis, there was no much difference between the external debt and the fiscal deficit, but over the years, government was able to effectively manage the external debt, whereas the fiscal

Figure 5.6

Gross Fiscal Deficit and External Debt in India



Source : RBI Database

deficit is not that much under the controlled levels. And it is to be detected if there are any impact of external debt upon the fiscal deficit in India.

The way nations fund their fiscal deficits impacts how fast they expand economically. Debt financing, taxation, and money creation might all be used to fund deficits. Apart from taxes, which are a leakage, both money creation and debt financing are injections into the economy that might lead to inflation if not controlled appropriately. Increased taxes to cover fiscal deficits lower the amount of money available for investment by reducing savings, slowing capital creation and economic development. Because of its capacity to operate as a catalyst in encouraging economic development and its indirect influence on the inflationary process, nations often seek debt financing to fund the excess of spending over income (deficit). Thus, there exist a relation between fiscal deficit and external debt. If the debt burden is high , it may also implies a high debt servicing, which results in a rapid outflow of resources from the domestic economy, in the form of interest and principal payments. This can in turn widen the fiscal gap which intern can hamper the economic development. Thus this analysis is valid as we look through the stable and sustainable growth of the economy.

5.4.2Empirical Model.

Stationarity Test

The phenomenon of stationarity is crucial because it affects the behaviour of a series. False regression, also known as gibberish regression, occurs when two non-stationary series are used in a regression analysis. In the following formula,

$$Yt = \beta 0 + \beta 1 Xt + \varepsilon t$$

The sequence is non-stationary if and only if it has a unit root. If there is no unit root in the series, then it is stationary. If an autoregressive model has a unit root, the stationarity test will reject the null hypothesis. The unit root test helps pinpoint which variables should be integrated first. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were used to see if the given series was stationary.

Order of integration

If a succession is stationary, its integration is of zero order; I (0). If a series is not stationary and is integrated of order 1 (i.e., I(1)), then its initial differences are stationary, or I(0). If a time series is I(2), then its second difference is I. (0). If a time series is I(d), we generate an I (0) series by differentiating it'd times. Where, often known as the first difference operator, instructs us to take consecutive differences of the relevant variables. Thus, $\Delta Yt = Yt - Yt-1$ and $\Delta Xt = Xt - Xt-1$.

Johansen and Juselius Co-integration Test

The Johansen-Juselius approach is used to test for the presence of a cointegration connection between nonstationary series of data. The Johansen-Juselius co-integration process allows us to investigate the presence of co-integration between two non-stationary series, provided that the rank of the matrix is not complete (0 <rank (π) = r <n). In which (r) indicates the number of co-integration vectors and (n) represents the number of variables. and π may be expressed in terms of adjustment variable vectors or matricesα and the vector or matrix of vectors that co-integrateβ, as

$\pi = \alpha\beta'$.

This procedure depends on the Trace test ($\lambda trace$) and The Maximum Eigenvalues test (λmax) to determinethe number of Co-integration vectors between variables based on a likelihood ratio test(LR).

The trace test ($\lambda trace$) is defined as:

$$\lambda trace(r) = -T \times \sum_{i=r+1}^{n} \log(1 - \hat{\lambda}i)$$

Contrary to the alternative hypothesis that the number of co-integration vectors equals r, the null hypothesis states that the number of co-integration vectors is less than or equal to r.

The Maximum Eigenvalues test (λmax) is defined as: $\lambda max(r, r + 1) = -T \times log(1 - \hat{\lambda}r+1)$.

The null hypothesis that the number of co integration vectors = r against the alternative that they are r+1.

Vector Error Correction Model (VECM)

Estimating a "Vector Error Correction Model" (VECM) with the following form may be necessary to conduct a causality test if the variables "Outstanding External Debt" (OEXD), "Gross Domestic Product" (GDP), "Net Export" (NX), "Gross Fiscal Deficit" (GFD), "Foreign Exchange Reserves" (FXRES), and "Foreign Direct Investment Inflow" (FDI) are all non-stationary, integrated of the same order (1), and cointegrated.

(a) The long run equation:

$$Y_t = \beta_0 + X_{1,t} + X_{2,t} + u_t$$

where Yt is the dependent variable, X1 the independent variable, X2 is the set of control variables, and ut is the stochastic error term with mean zero and a constant variance.

(b) The short run equation:

$$\Delta Y_t = \alpha_t + \sum_{i=1}^{m} \beta_1 \Delta X_{1,t-i} + \sum_{i=1}^{m} \beta_2 \Delta X_{2,t-i} + \theta ECT_t + \epsilon_t$$

In this expression, stands for the difference operator, Δ represents the difference operator, m stands for the number of lags, ECT stands for the error terms obtained from the long run relationship, and it e (i =1, 2, 3) stands for the stochastic error term with a mean of zero and a variance of constant. An error correction model may be used to represent a co-integrated system comprising two series, as proposed by Engle and Granger (1987). (ECM). Since causality in this model must go at least one direction, ECM is a helpful theoretical tool for predicting the short- and long-term impacts of 2 series. The error correction term's parameters represent the rate at which a temporary imbalance in either variable tends to return to long-run equilibrium.

If the parameters (β1 and β2), then Granger-causality might be asserted; this can be checked using an F-test. Similarly, if the parameters of the error correction term in are statistically significant, as assessed by a t-test, then long-run causation might be asserted. The amount of lags matters for the Augmented Dickey-Fuller (ADF), the Co-integration test, and the Vector Error Correction Model (VECM). Therefore, the selection of the delays is equally crucial.

The Autoregressive Distributive Lag (ARDL)Model

We use the ARDL cointegration method to examine the interrelationships and dynamic interactions among the relevant variables throughout time horizons of interest. One benefit of this approach is that it works just as well with mixed-type variables (those that may be either I(1) or I(0)) as it does with single-type ones. The first step of the ARDL model is to perform the bound test against the null hypothesis of no co-integration. The critical value is compared with the estimated F-statistic. For this reason, we use the Error Correction Model, since the bound test shows that the variables are cointegrated.

The ECM specification of ARDL model can be in the form:

$$\Delta Y_t = \alpha_0 + \sum_{t=1}^{p} \beta_t \Delta Y_{t-1} + \sum_{t=1}^{p} \delta_t \Delta X_{t-1} + \sum_{t=1}^{p} \varepsilon_t \Delta Z_{t-1} + \lambda_1 Y_{t-1} + \lambda_2 X_{t-1} + \lambda_3 Z_{t-1} + \pi ECM_{t-1} + u_t$$

where β, δ, and ε in the equation show the model's short-term dynamics, π is the coefficient for the error correction term, whereas the λsexemplify the long-term connection. The null hypothesis of no cointegration over the long term is definedby H0: λ1= λ2= λ3= 0, which is tested against the alternative hypothesis of H1: λ1≠ λ2≠ λ3≠ 0, by means of the F-test

5.5 Analysis of results of the Econometric Model.

It is vital to examine the stationarity of any time seriesbefore taking up the analysis. Non stationary time series will provide spurious regression and thus we have to convert the series to a stationary series by taking up the differencing method or the logarithmic method. We consider the unit roots with trend and constant for the analysis. A graphical depiction indicate that all the series follow some trend except for the REER. Furthermore, from the Table 5.1 we see that they are immobile initially differs and hence I(1). As we proceed, we have to check for the cointegration as we suspect a long-run relationship between the I(1) variables. In the presence of a cointegration, we can take up the Vector Error Correction model for the estimation, Vector Autoregressive Regression (VAR) oth-

erwise. In case the variables is a combination of I(0) and I(1), we are suggested to take up the Autoregressive Distributed Lag (ARDL) model for the analysis. As we are considering multiple regressions we take up different empirical methods for each models.

Table 5.1

Unit Root Test Results

	ADF with no Trend		ADF with Trend		Lags
Variable	**level**	**first diff**	**level**	**first diff**	
GDP	9.28***	-1.89	0.69	-3.40***	1
Net Export	-1.41	-5.10***	-2.47	-5.02***	1
Gross Fiscal Deficit	2.18	-3.89***	4.85***	-4.81***	3
Outstanding External Debt	2.82	-3.19**	1.74	-4.23***	1
Foreign Exchange Reserves	5.20***	-2.16	0.66	-3.83***	1
FDI Inflows to India	3.83***	-3.18**	0.66	-4.86***	1

Source : Author's own calculation..

(*, ** and ***represent significance at 1%, 5% and 10%, respectively)

Table5.2

Unit Root Test for Log Variables

	ADF with no Trend		ADF with Trend		
variable	**level**	**first diff**	**level**	**first diff**	lags
Log GDP	1.24	-5.24	**-3.88**	-4.95	1
Log GFD	-0.40	-5.31	-2.85	-5.22	1
Log OEXD	0.61	-3.73	-1.62	-3.73	3
Log FXRES	**-2.98**	-3.90	-1.90	-4.55	3

Log REER	-2.38	-5.76	**-4.17**	-5.66	1
Log FDI	**-2.76**	-4.20	**-3.61**	-4.19	1

Source : Author's own calculation..

MODEL 1 : THE IMPACT OF EXTERNAL DEBT ON FDI IN INDIA.

The results confirm the notion that the external debt restriction is critical for FDI-induced growth. It is shown, in particular, that countries with debt levels beyond a specific threshold are unable to fully benefit from FDI-driven development while they work to lower their debt. Increasing financial development, the data suggests, may help reduce the impact of high foreign debt on the FDI–growth nexus.In this context,we look into the effect of external debt on FDI inflows to India. We consider Outstanding External debt (OEXD) as the explanatory variable and Gross Fiscal Deficit (GFD) as a control variable. We test for cointegration using Johansen cointegration test. The result suggests there exist a cointegration of rank *one* for the model, see table below. We thus take up the VECM model for analysis, see Table5.3.This model's long-term and short-term equation may be expressed in terms:

(a) The long run equation:

$$FDI_t = \beta_0 + OXED_{1,t} + GFD_{2,t} + u_t$$

(b) The short run equation:

$$\Delta FDI_t = \alpha_t + \sum_{i=1}^{m} \beta_1 \Delta OXED_{1,t-i} + \sum_{i=1}^{m} \beta_2 \Delta GFD_{2,t-i} + \theta ECT_t + \epsilon_t$$

Johansen Cointegration Test Result

Cointegrating Ranks	Trace Statistics	5% critical value
0	29.96	29.68
1	10.22*	15.41

Source : Author's own calculation..

The following table tells that the debt significantly influences FDI both in the short run and long run. As only the 2nd and 3rd lags are significant, it may indicate that the effect is more directed towards the log run. However, the short run coefficients are positive and long-run coefficient is negative, indicating that the debt may attract FDI in short run but in a long term it is going to have a bad effect in FDI inflows. The adjustment coefficient (negative) and control variable (positive) are also observed to be significant.

Table 5.3

Effect of External Debt on FDI ,Dependent Variable: FDI, Control variable : GFD.

	Variables	Coeff	SD	P value
	Adj Coef	-0.50***	0.20	0.01
Short Run				
oexd	LD.	0.52***	0.22	0.02
	L2D.	0.84***	0.21	0.00
	L3D.	-0.41	0.27	0.13
fdi	LD.	-1.82	1.16	0.12
	L2D.	2.60**	1.17	0.03
	L3D.	2.10*	1.21	0.08
gfd	LD.	-0.40	0.50	0.43
	L2D.	0.67	0.43	0.13
	L3D.	0.82**	0.37	0.02
	_trend	19346.68	62453.42	0.76
	_cons	-103980.10	404952.80	0.80
Long Run				
	oexd	-0.54***	0.04	0
	gfd	1.31***	0.17	0

Source : Author's own calculation..

MODEL2: THE IMPACT OF EXTERNAL DEBT ON GDP IN INDIA.

It is believed that ED has a higher influence on GDP. Multiple studies relate GDP to the external debt positively. Here , GDP is the dependantvariable,we consider OEXD as the explanatory variable and FXRES as a control variable. We test for cointegration using Johansen cointegration test. The result suggests there exist a cointegration of rank *one* for the model, see table below . We thus take up the VECM model for analysis, see Table 5.4. The model specification can be done as follows.

(a) The long run equation:

$$GDP_t = \beta_0 + OXED_{1,t} + FXRES_{2,t} + u_t$$

(b) The short run equation:

$$\Delta GDP_t = \alpha_t + \sum_{i=1}^{m} \beta_1 \Delta OXED_{1,t-i} + \sum_{i=1}^{m} \beta_2 \Delta FXRES_{2,t-i} + \theta ECT_t + \epsilon_t$$

Johansen Cointegration Test Result

Cointegrating Ranks	Trace Statistics	5% critical value
0	32.21	29.68
1	7.59*	15.41

Source : Author's own calculation..

Table 5.4

Effect of Debt on GDP, Dependent Variable: GDP, Control variable : Forex Reserve.

Variables		Coef.	SD	P value
	Adj Coef	-1.03***	0.20	0.00
Short Run				
GDP	LD.	0.73***	0.21	0.00
	L2D.	0.21	0.20	0.30
	L3D.	0.52***	0.18	0.00

OEXD	LD.	-0.98***	0.17	0.00
	L2D.	-0.26	0.19	0.16
	L3D.	-1.03***	0.31	0.00
FXRES	LD.	-0.86***	0.18	0.00
	L2D.	-1.32***	0.28	0.00
	L3D.	-0.51***	0.27	0.06
	_trend	11309.51	97596.00	0.91
	_cons	1578696.00***	389598.20	0.00
Long Run				
	OEXD	-0.83***	0.06	0
	FXRES	-1.45***	0.13	0

Source : Author's own calculation..

The Table 5.4 suggests GDP is highly influenced by the ED in both short run and long run. However, it affects positively in the short run and negatively in the long run. As can also be observed the adjustment coefficient is negative and significant. The control variable foreign exchange reserve is negatively affecting GDP in short run and long run. This results implies that in the short rum the economy can reap benefit from the debt flow by using it to bridge the gap in the development needs and also as an access to sufficient resources, if the domestic economy is not able to supply it up to the mark. But the long run tendency to depend upon the debt is not sustainable it can create issues like debt overhang and debt solvency related issues, which can hamper the smooth function of the economy by increasing tax rates and resulting in inflation.

MODEL3 : THE IMPACT OF EXTERNAL DEBT ON NET EXPORTS IN INDIA.

The model looks into the effect of ED on log of NX (LNNX).[1] As the factors are a mixture of I(0) and I(1), we may take up the ARDL method for the analysis. We consider LNOEXD as the autonomous variable and LNREER as the control parameter. We test for cointegration using ARDL B-test. The result suggests there exist a cointegration between the variables, see table below. We thus take up the *ARDL with error correction* (EC) model for analysis, see Table5.5.

[1] We opt the log of variables in this analysis as we are considering REER as a control variable, which is a *rate* and others are *nominal values* that are large denominations. Thus we took log of all variables, checked for stationarity and found that the variables are I(0)s and I(1)s.

ARDL Cointegration test

	Statistic	Critical value at 5% level		Remark
		Lower	Upper	
F-statistic	10.132	3.79	4.85	Cointegrated
T-statistic	-5.468	-2.86	-3.53	Cointegrated

Source : Author's own calculation..

Table 5.5

Effect of Debt on Net Exports, Dependent Variable: LNNX

Variables		Coef.	SD	P>|z|
	Adj Coef	-1.98***	0.36	0
Short Run				
	ΔL.lnnx	0.40*	0.21	0.07
	Δlnoexd	-33.05**	14.45	0.04
	Δlnreer	-82.53*	46.07	0.09
	_cons	-329.66***	98.71	0.00
Long Run				
	lnoexd	-6.69***	0.98	0.00
	lnreer	116.07***	20.53	0.00

Source : Author's own calculation..

Coinciding with the resulting in literature, our regression estimates show significant and negative effect of debt on net export both in long run and short run. However, the short run effect seems much higher than the long run effect indicating a decreasing effect of Debt on Net Export in the longer period. The control variable, Exchange Rate is significant and negative in short run and positive in the long run.

MODEL4: THE IMPACT OF EXTERNAL DEBT ON FOREX RESERVE IN INDIA.

The model looks into the effect of external debt on Foreign exchange reserve in India. Literature suggests a negative relationship between the variables. We consider outstanding external debt as the explanatory variable and Foreign Direct Investment inflows as a control variable. We test for cointegration using Johansen cointegration test. The result suggests there exist a cointegration of rank *one* for the model, see table below We thus take up the VECM model for analysis, see Table 5.6.

(a) The long run equation:

$$FXRES_t = \beta_0 + OXED_{1,t} + FDI_{2,t} + u_t$$

(b) The short run equation:

$$\Delta FXRES_t = \alpha_t + \sum_{i=1}^{m} \beta_1 \Delta OXED_{1,t-i} + \sum_{i=1}^{m} \beta_2 \Delta FDI_{2,t-i} + \theta ECT_t + \epsilon_t$$

Johansen Cointegration Test Result

Cointegrating Ranks	Trace Statistics	5% critical value
0	29.98	29.68
1	10.35*	15.41

Source : Author's own calculation..

Table 5.6

Effect of Debt on Foreign Exchange Reserve, Dependent Variable: FXRES, Control Variable : FDI.

	Variables	**Coeff**	**SD**	**P value**
	Adj	-0.37	0.42	0.38
Short Run				
FXRES	LD.	0.74**	0.39	0.05
	L2D.	-0.40	0.47	0.40
	L3D.	0.17	0.42	0.69
OEXD	LD.	-0.25	0.36	0.48
	L2D.	0.85***	0.33	0.01

	L3D.	-0.57	0.36	0.11
FDI	LD.	-1.67	2.25	0.46
	L2D.	-1.57	1.97	0.42
	L3D.	0.01	1.52	1.00
	_trend	19346.68	62453.42	0.76
	_cons	-103980.10	404952.80	0.80
Long Run				
	OEXD	0.21**	0.10	0.04
	FDI	-5.51***	0.75	0.00

Source : Author's own calculation..

In contrary to the literature, our regression suggests positive impact of debt over the FOREX reserves, in long run and short run. FOREX reserve is usually used as a monetary policy tool to deal with the fluctuations in the foreign currency market and other external shocks. Foreign exchangereserve in that way is considered a significant category affected by the External debt. In our analysis, it is implied that when debt increase, the reserves also increases, as they are having a positive relationship.The control variable FDI is negatively significant over the long run which in a way indicate the intended longevity of the foreign direct investments in making an impact over the macro economic variables such as Forex Reserve.

MODEL5 - THE IMPACT OF EXTERNAL DEBT ON GROSS FISCAL DEFICIT IN INDIA.

The model looks into the influence of outstanding ED on Gross Fiscal Deficit in India.We consider outstanding external debt as the explanatory variable and GDP as a control variable. We test for cointegration using Johansen cointegration test. The result suggests there exist a cointegration of rank *one* for the model, see table below. We thus take up the VECM model for analysis, see Table 5.7.

(a) The long run equation:

$$GFD_t = \beta_0 + OXED_{1,t} + GDP_{2,t} + u_t$$

(b) The short run equation:

$$\Delta GFD_t = \alpha_t + \sum_{i=1}^{m} \beta_1 \Delta OXED_{1,t-i} + \sum_{i=1}^{m} \beta_2 \Delta GDP_{2,t-i} + \theta ECT_t + \epsilon_t$$

Johansen Cointegration Test Result

Cointegrating Ranks	Trace Statistics	5% critical value
0	43.24	29.68
1	13.64*	15.41

Source : Author's own calculation..

Table 5.7

Effect of External Debt on Gross Fiscal Deficit, Dependent Variable: GFD,

	Variables	**Coeff**	**SD**	**P value**
	Adj	-1.57***	0.33	0.00
Short Run				
GFD	LD.	0.49	0.30	0.10
	L2D.	0.43	0.27	0.11
	L3D.	0.62**	0.28	0.03
OEXD	LD.	-0.21*	0.12	0.08
	L2D.	-0.07	0.13	0.59
	L3D.	0.20	0.15	0.17
GDP	LD.	-0.58*	0.21	0.01
	L2D.	-0.18	0.17	0.28
	L3D.	-0.21	0.15	0.16
	_trend	63083.67	62948.30	0.32
	_cons	-296117.90	247226.30	0.23
Long Run				
	OEXD	-0.06	0.06	0.27
	GDP	-0.15***	0.04	0.00

Control Variable : GDP.

Source : Author's own calculation..

Table shows that the external debt in short run is significant and in long run insignificant to influence GFD in India. Either way it is negatively affecting GFD. The negative relation may suggest that an increased external debt may fund the budget which may reduce the government fiscal deficit. The result suggests that in short run, 1% increase in the external debt may lead to 0.2% decrease in the fiscal deficit. Furthermore, as literature suggests, GDP is a good control variable for GFD, which is significant in both short run and long run. The adjustment coefficient is also significant and negative.

The following table shows the summary of the results drawn after analysing the impact of ED on various macroeconomic circumstances in India

Table 5.8

Summary of the Results

Variables affected by External Debt	Control Variable	Model	Short Run Relation	Long Run Relation
FDI	Gross Fiscal Deficit(GFD)	Vector Error Correction	Positive	Negative
GDP	Forex Reserve	Vector Error Correction	Positive	Negative
Net Exports	Real Effective Exchange Rate	ARDL with error correction	Negative	Negative
Forex Reserve	Foreign Direct Investment	Vector Error Correction	Positive	Positive
Gross Fiscal Deficit	Gross Domestic Product	Vector Error Correction	Negative	Insignificant

Source : Author's own calculation..

5.6 Summary.

This chapter examines the role played by External debt in determining India's macroeconomic performance and validates its significance of the same. On the basis of the selected independent variables like “gross domestic product, foreign direct investment, gross fiscal deficit, foreign exchange reserves, and net exports”, an attempt has been made to develop five functional models depicting a

quantitative relationship between gross external debt and the selected independent variables. According to the findings of the study, external debt has a positive association with gross fiscal deficit, gross domestic product and foreign currency reserves in the short run. while it has a negative link with net exports and gross fiscal deficit in the short run. Whereas its effect on the Gross Fiscal Deficit in long run is insignificant. Models also imply that India's foreign debt makes a considerable contribution to the country's macroeconomic performance, as evaluated by a number of different key performance indicators.

CHAPTER 6

EXTERNAL DEBT SUSTAINABILITY: AN ANALYSIS OF THE INDIAN ECONOMY.

6.1 Introduction.

In any macroeconomic assessment of the economy, the issue of whether public debt is sustainable or not is very essential. And that question may be more pertinent now than it has ever been. Countries with persistent current account deficits often rely on foreign equity and borrowed capital to fund their deficits. Foreign capital promotes investment and development in these nations by associating the gap between internal saving and investment. On the other hand, excessive foreign debt is apparently detrimental to growth since it makes a nation more susceptible to external shocks and crises. Therefore, smart management of foreign debt is indispensable for the macroeconomic growth of a developing nation. External loan flows, "such as short-term trade credit, external commercial debt, and non-resident deposits," have supplemented equity flows in sustaining India's extended current account deficit since 2004-05.

Other outer sector actions in India have contributed to the country's low external vulnerability. Growing public debt in both developed and emerging countries, as well as periodic episodes of stress in historically stable sovereign markets, have acted as sharp reminders that long-term viability cannot be assumed. On this basis, in this chapter, we analyse how India's ED and reserve-related metrics of its susceptibility to external shocks have changed over the last several years, with an emphasis on the country's capacity to make its debt repayments.

6.2 The concept of "External debt sustainability"

A debt instrument may be thought of as an economic claim that stipulates future payments from the debtor to the creditor, either of principle or interest. Different groups and individuals, such as bondholders, banks, government lending institutions in other nations, and multilateral lenders like the World Bank, are all owed money by different countries. To avoid default or excessive foreign financial aid, a government must have a sustainable public debt if it is to cover all of its present and future payment commitments.When governments borrow from financial markets, there are also substantial risks associated with refinancing. Therefore, it is crucial to investigate if debt-stabilization methods are suitable and dependable for preserving economic potential or advancement.

Government debt may be thought of in a few different ways, according to its source. Generally speaking, a restricted concept of public debt would contain solely the financial commitments of the federal government.For a broader understanding of government, central, state, and municipal governments, as well as social insurance funds and other supplementary budgetary entities, are possible places to start looking. All debt owned by any of the three tiers of government is the public sector in its widest sense; all publicly owned non-financial companies, and all publicly owned financial enterprises, including the central bank. Government obligations that are not owned by the government but are guaranteed by the government (such as interest and principal) and public debt issued by governments outside of the nation are also included (debt held by nonresidents of the country). Limiting one's focus to a narrow conception of public debt may lead one to miss out on looming increases. For instance, a country's debt sustainability may take an unanticipated turn for the worse if a loss-making state-owned company defaults on its debt, which is publicly guaranteed. All sources of debt that pose a threat to a nation's governmental finances must be taken into account when conducting a debt sustainability analysis. It is the government that is generally (though not always) the focus of studies on debt sustainability, both in developed and developing economies. On the other hand, government and government-guaranteed debt in low-income countries is almost all repaid. It's crucial to factor in the interests of those who own government debt. The debt sustainability of both domestic and international states is evaluated by the IMF and the World Bank. Sovereign credit rating agencies often look at the foreign government debt market to figure out if a financial crisis is likely or not.

It is believed that foreign borrowing has a good influence on the economy's growth and development up to a certain point, but that it has a detrimental impact beyond that point. As a consequence of this, there is a Laffer curve type connection between investment, external debt, and per unit of population income rise (Claessens, 1990; Semmler and Sieveking 2000). According to the International Monetary Fund, there are several factors to consider when determining whether a country's external debt is sustainable. Policymakers may use these measures, which are often reported as ratios, to fulfil their duties related to managing the country's foreign debt. Indicators of solvency in this sense are those that compare a country's capacity to create resources to pay off its debt to its stock of debt at a given point in time. Numerous metrics, including the debt-to-GDP ratio, the international deficit ratio, the country's debt-to-current-fiscal-revenue ratio, the ratio of outer debt-to-total debt, and the ratio of short-period debt-to-total debt, are used extensively.

The second set of data from the IMF (2000) examines the country's immediate cash flow requirements for debt payments. By showing how the financial load ratios would change if no repayments or new disbursements were made, these dynamic ratios show that the debt burden is stable even without payments. A dynamic financial planning ratio is the annualised rate of interest on debt expressed as a percentage of the annualised rate of growth of the economy's nominal GDP. The sustainability of overseas debt may be evaluated using the current account surplus (IMF, 2000). Expected continuing deficits and an increasing ratio of foreign debt to GDP suggest that the country's current external condition may be untenable. The country's debt load is increasing as a consequence of continuing to support massive current account deficits via debt issuance. The firm's solvency is jeopardised as a consequence of the necessity to repay huge amounts of debt on a regular basis, and the business is exposed to external liquidity risk as a result (e.g., bi-annually, quarterly, or monthly,).

Numerous criteria for the long-period sustainability of foreign debt have so far been identified. To achieve debt resilience, the HIPC programme, for example, established thresholds of 150 percent of debt to exports and 250 percent of debt to gross national income. According to Pattillo and colleagues (2002), debt criteria are based on the assumption that the HIPC effort would halve debt levels. Based on debt ratios from the year 2000, it is shown that debt has a negative effect on per capita development when borrowing to export ratios are 160–170 percent and debt to GDP ratios are 35–40 percent, respectively. Consumer external debt must be limited (below 214 percent of fiscal revenue) and the currency must not have appreciated significantly relative to the US dollar. Total foreign debt should not exceed 49.7% of GDP. Short-term debt should not be more than 130 percent of liquid assets (overvaluation should be less than 48 percent).

Liquidity risks (or debt hedging), macro-exchange rate risks, and solvency risks (or debt unsustainability) are the three forms of debt-related hazards identified by Manasse and Roubini. Unsustainable external debt may arise if the ratio of the country's total debt to GDP is over 49.7 percent, if there are monetary or fiscal imbalances, and if there is a considerable requirement for international funding that reflects illiquidity. Modest levels of debt, as well as short-period debt exceeding 130 percent of reserves, political instability, and restricted foreign capital markets, all point to the presence of liquidity issues.Low growth combined with relatively stable exchange rates results in the formation of macro-exchange rate risk groups. Each of these types of risk has a different possibility of triggering a debt crisis than the others.

To the contrary of previous views on debt indicators, Caliari (2006) posits that the plethora of metrics used to determine debt thresholds are insufficient indicators of how well an economy is doing and, in particular, how effectively the government is achieving its income requirements to achieve human development objectives. It is his contention that the HIPC endeavour has been extensively criticised for relying only on debt to export and debt payment to export ratios as clues of indebtedness sustainability in order to determine debt sustainability. His research reveals, for example, that export income is not necessarily correlated with poverty reduction rates, fiscal revenue, and economic development, which is particularly concerning. He also points out that the criteria that have been chosen, since they are based on numerical boundaries, are insufficient to reflect the likely variation in a country's conditions.

Unsustainable debt may result in debt distress, which happen’s while a government is unable to satisfy its financial duty and is forced to restructure its debt. As a consequence of defaults, renting countries may lost access to the global financial markets and incur higher borrowing rates, which may impede development and investment. When a nation determines whether or not to take on new debt, three major considerations should be taken into account:

1. The amount of new financing should be consistent with budgetary expenditures and deficit reduction objectives. The new borrowing must be estimated correctly in order to keep the national debt on a sustainable path.
2. All the pros and cons of increasing debt should be carefully weighed before a country decides to take on more debt. Good social and infrastructure investment that is financed by borrowing may provide more revenue, which, in turn, may help mitigate the dangers of long-term debt through reduced interest and principal payments.
3. Comprehensive medium-term debt management strategies, adopted in tandem with other policies, should include measures to enhance debt reporting and debt data for individual countries. Public and publicly guaranteed debt, including that owed by state-owned firms, should be included in any complete debt data set. Information like this may be given to potential lenders in an effort to foster more responsible borrowing practises.

6.3 Review of Literature on External Debt Sustainability

Since responsible measures in order to maintain macroeconomic stability, the fundamental issue of external shortfall sustainability has gained traction in emerging nations, as well as among a number of prominent politicians and international scholars, economists, and academicians. This resulted in a significant amount of theoretical and practical studies on the topic during the 1990s. To check whether a country's balance of payments is in line with its inter temporal exterior constraint, economists have traditionally used time-series approaches. "As a corollary, the majority of empirical research has focused on the United States and other industrialised The study's authors came to the conclusion that many developing nations struggle to adhere to the external sustainability constraints imposed on them.

As stated by Roubini (2001), if the creditor can make the required payments either now or in the future, then the debt is manageable. One popular way to put this in terms of a country's external debt is as follows: if a country's net loan is now lesser or equal to the value of its net exports, then the debt may be sustained indefinitely. This article's analysis is predicated on this principle. Sachs and Buiter (1981) created the intertemporal approach to the current account, which was further developed by Obstfeld and Rogoff (1995). (1995). This view holds that a nation's ability to maintain its financial stability on the international stage depends on how well it has adhered to the intergenerational budget constraint over an extended period of time. This limitation is based on the assumption that a nation would be able to generate enough trade surpluses in the future to cover its present debt. External solvency, as defined by the intertemporal budget constraint, reveals the policies' long-term viability. According to Geithner (2002), the solvency criteria are met when the expected value of future expenditures committed to debt servicing equals the present debt stock. Both Sustainable Development and Solvency were first described by Milesi-Ferretti and Razin (1996). (1996). Those authors argued that "external solvency" meant the ability to repay in one's own right. Although it may be politically feasible, the debtors' wish to do so is ignored.

A number of empirical studies have used time series analysis to investigate whether external imbalances can be sustained.Unit root and cointegration methodologies have supplied insight into the solvency of government budgetary policies over a specific time horizon. Such standards might be found in books or articles dealing with the financial health of governments. Initially proposed by "Hamilton and Flavin (1986), further work by Trehan and Walsh (1991) and Wilcox (1992) (1992).

(1992). (1989). (1989)".This model has also been used to examine the external solvency challenge and the long-term sustainability of external deficits.

"Trehan and Walsh (1991) pioneered the standard examination of external sustainability, which examines the stationarity of the current account or foreign loan portfolio using unit root approaches (see Camarero et al., 2015; Holmes, 2006; or Chen, 2011). (seeCamarero et al., 2015; Holmes, 2006; Chen, 2011). Citations can be found in Camarero et al., 2015; Holmes, 2006; or Chen, 2011)". For the current account to be in conformity with the intertemporal budget constraint (IBC), Trehan and Walsh (1991) argue that I(0) stationarity is necessary (IBC). Maintaining a balanced current account might be seen as an indication that a government has no cause to default on its foreign debt. In addition, the intertemporal model of the current account is consistent with its long-term viability. These methods are derived from examples found in the published literature (Barro, 1979; Hamilton and Flavin, 1986; Hakkio and Rush, 1991; Trehan and Walsh, 1991; Wilcox, 1989).

Flow data has been used in certain studies (e.g., Bussière et al., 2006; Zanghieri, 2004) to investigate the dynamics of the adjusting process. The downside of this approach is that it doesn't account for fluctuations in the value of overseas assets and liabilities. Researchers have begun to use stock variables rather than flow variables to overcome this problem. Recent publications exploring external sustainability have employed unit-root and/or cointegration tests for panel data. “Wu (2000) and Wu, Chen, and Lee (2001)” researched current account sustainability in industrial countries and may be quoted. Additionally, Holmes (2006) employs an improved Dickey-Fuller panel data unit-root test inside a seemingly unrelated regression, and finds that the foreign debt of at least 12 Latin American countries is manageable

Another approach was devised by analysing the mean-reverting tendency of foreign debt in a panel of 19 Asian states from 1981 to 2010. (Lau, Baharumshah, and Soon, 2013). Last but not least, Lin (2014) employs a quantile regression model to evaluate the external debt sustainability of 21 member states of the “Organization for Economic Cooperation and Development”. Stocks also have the benefit of being less volatile, allowing for a more accurate evaluation of long-term connections. Several works, including those by Lane and Milesi-Ferretti (2007) and Wickens and Uctum (2009), provide examples of this strategy (2007). (1993). Gourinchas and Rey (2007) came up with a new way to estimate the U.S.'s external imbalances. They used monthly data and an intertemporal budget constraint technique.

A second line of investigation focuses on the technique pioneered by Bohn (1998) and applied in succeeding research. Estimating a linear response function for the trade balance is one method Bohn (2007) proposed for evaluating the external debt status. The reaction parameters for outer net foreign liabilities were estimated using error correction models. Also attempting this technique were Bajo-Rubio et al. (2014) and Durdu et al. (2013), with contrasting outcomes. Nonlinearities may make the model even more complicated, as shown by Paniagua et al.'s (2017) estimation of a time-varying fiscal response function.

Almost any government might be considered solvent if the past were to be forgotten. Any future primary surpluses will be enough to establish the credibility of any government promise. In order to establish a workable definition of debt sustainability rather than solvency, we must develop a process to sufficiently discipline and educate our judgement using "hard" facts and "objective" criteria and indicators.

Borio et.al. (2016) questioned the validity of such frameworks. Borio and Disyatat have voiced their disagreement with Bernanke's stance (2011). (2005). Big current account surpluses are alleged to have exacerbated the Great Financial Crisis by relaxing global financial conditions and fostering credit booms in nations with current account deficits. Semmler and Tahri (2017) conducted an interesting analysis of the external debt of three countries in the Eurozone (Italy, Spain, and Germany). Instead of looking at the debt as a percentage of GDP, they looked at the debt as a percentage of total assets and found that these nations had developed inequitably.

Recent studies confirm what many people learned the hard way during the global financial crisis: mistrust and risk aversion are crucial. According to a recently updated data set on foreign assets and liabilities by Lane and Milesi-Ferretti (2018), the size of the domestic debt market has a negative correlation with the proportion of debt held by non-residents.Both Monastiriotis and Tunali (2020) and Afonso et al. (2019) have looked at how EMU countries can stay stable on the outside.

The optimal technique for nations in monetary unions to make external adjustments was analysed by Belke and Gros (2017), as was the significance of domestic devaluation in rebalancing the buildup of foreign debt. Fatás et al. (2019) take a different approach. They argue that political failures are a major cause of too much borrowing, and they show how budgeting institutions and fiscal rules could reduce this perverse incentive.

We use Blanchard and Das's (2017) definition of ED sustainability, which states that it exists when "net debt is less than or equal to the present value of net exports at the current exchange rate." Researchers Assibey-Yeboah et al. (2016) examined the current account sustainability hypothesis and found that positive inflation shocks, such as those generated by a depreciation of the home currency, might result in a reduction in the amount of real debt in the local currency.

We estimate the probability of successful repayment of external debt using this method. To achieve this, we compare the capacity of industrialised and emerging nations to sustain external imbalances over time. But when discount rates are "greater than one," as we call them, we depart from the approach used by Blanchard and Das (2017). Many developed nations enjoy these low rates because they are able to finance their debt at a pace that is lower than the increase of their gross domestic product. Blanchard has a fascinating discussion on the topic of low interest rates (2019).

6.4 Different aspects of External debt sustainability.

Sustainability of government debt, in general, commonly characterise the government debt as a collection of all outstanding government obligations. The quantity of money or GDP ratio is often used to characterise it. According to the concept of collegiality, the country's highest executive authority, or a central government, is also responsible for the country's debt. Solvency of the government is a commonly used metric to assess the long-term sustainability of government debt. If the government is solvent, the debt is seen as sustainable. This method requires a lot of extra research to back up the findings. It's also common for the idea of solvency to be difficult to understand on its own. The short-term idea of any sustainability suggests that only the long-term should be taken into account and evaluated, even if no time span is provided in certain circumstances.

In a second way, the debt load is assessed. It is deemed sustainable if the burden of debt induced debt on the government does not rise. Only long-term outcomes should be regarded in this scenario. The load level may be determined using a simple ratio based technique. Because of rising debt payment costs and rising debt levels, some claim that the government's borrowing strategy may be unsustainable in the long-term.. If the government's debt grows out of hand and it becomes impossible for the government to pay back its debts, then the borrowing policy of the government cannot be sustained.It is similar to the previous idea, but it takes into account not only the debt load, but also the level of debenture and how it changes over time. A government's debt may be termed sus-

tainable if the fluctuation in its debenture level can be controlled. The risk connected with the management of government debt is calculated and assessed.

The fourth fundamental method focuses on financial constraints. As long as borrowing and therefore the debt level does not surpass the growth of the economy, the government's debt is deemed sustainable. In order to estimate GDP change, it is important to analyse economic uncertainty even if it is not explicitly required by the research technique in question.The last principle is concerned with how the borrowed monies are put to use. If the borrowed money is put to good use, then the borrowing strategy adheres to the sustainability principles of the business model. Specific indicators may be used to assess effectiveness, but the rationale behind the indicators must be clearly stated. "

The variety of notions reveals the many facets of sustainability's core nature. However, we believe that an integrative approach is required when examining this particular instance. Draksaite's idea approach, for example, reflects the generalisation of several government debt sustainability notions (2014). Various notions of long-term public debt sustainability, as well as the nuances of government borrowing and the conditions necessary for long-term public debt sustainability, are all included in this conceptual framework. That's what it's all about: selecting borrowing and debt management means, taking into account risk (e.g. a sudden economic decline, change in exchange rates, refinance etc.) and costs, to ensure that the government can meet its borrowing needs, maintain its creditworthiness, and meet its obligations to creditors in the long run. As a consequence of the governmental debt management, a sustainable level of government debt is defined as one that guarantees that the government's borrowing needs are met and does not adversely impact the government's capacity to satisfy its long-term debt commitments. However, the technique does not take into account the aspects that determine the borrowing amount, such as how it was created or what effect it would have.

6.5 Issues related to the unsustainable external debt.

A number of factors determine the amount of debt a country can posses before it becomes unmanageably large. The quality of a country's institutions and debt management capacities, as well as its policies and macroeconomic fundamentals, all have an impact on the country's ability to service its debt. The capacity of a country to bear debt fluctuates over time and is also influenced by the state of the global economy.When the International Monetary Fund (IMF) evaluates debt sustainability in low-income countries and countries with access to financial markets, the IMF takes into consideration the debt-carrying capacity of individual countries. In the context of the present day world, one point of worry is whether debt-carrying skills have advanced enough to tolerate high debt levels. Indeed, low interest rates have unquestionably increased the borrowing capacity of countries since

the global financial crisis began in 2008.This, on the other hand, does not necessarily suggest that you will be able to handle an increase in your monthly debt payments. The history of governments has proved that even when interest rates are low and money is available, governments' debt-carrying capacity is limited and that expanding debt-service burdens must be carefully regulated.

The pace of expansion is another crucial consideration. If all other factors remain constant, a greater rate of growth has a beneficial influence on debt dynamics. Growth rates have historically increased after significant debt reductions that did not involve restructuring. However, without such foreign stimulation, it may be difficult to sustain domestic development, necessitating more debt for purposes such as funding public investment. Given the present economic climate, it is crucial to carefully manage debt payback, and debt management and debt data should be among the highest objectives. There are a number of problems that come up when foreign debt keeps going up.

(i)Liquidity Constraint.

The expenditures of service payments have a negative effect on GDP because they tend to place public investment lower on the priority list. Debt service payments may affect investment decisions if debt repayment is anticipated. However, investments should not be crowded out if a debtor country is not anticipated to repay its debt due to the existence of a well-known rescheduling rule. Cohen (1993) suggests a model where the effect of crowding out is tied to the amount of resources that creditors may "tax away," rather than the stock of debt, for countries with nominal debts so enormous that creditors cannot commit their rescheduling approach to following a certain rule. The opportunity cost of postponing debt payment is equal to the elasticity of substitution between current and future spending, and the cost of repudiating a loan is directly proportional to the interest rate.

(ii) The Impact Socioeconomic Development.

A big debt load, raises the uncertainty regarding how much of the existing loan can be repaid substantially without affecting the economic performance in the domestic economy. The channel via which a substantial external debt might have an impact on economic performance is uncertainty about future financial assistance and resource inflows, as well as debt service obligations, and their impacts on macroeconomic stability. Future inflows and further financing are likely to be more volatile as a result of the risk of default, rescheduling, and arrears, while access to capital markets is dependent on perceived sustainability (Gunning and Mash, 1998). This creates an unpredictable climate in which conditional loans and rescheduling are also used to support government pro-

grammes and changes. As a result, even if the economy's performance are improving, local and international investors are likely to exercise the "waiting" option (Serven, 1996).

Debt reduction minimises uncertainty and fosters economic development by increasing trust in the debtor country's leadership and policies. (Claessens et al. 1996) contend that one of the lessons learned from the Brady Plan's experience is the critical relevance of decreased ambiguity. The key avenue via which debt reduction influenced growth was the elimination of continuous ongoing rescheduling. Debt reduction boosts capital inflows by boosting trust in government changes and new policies. This occurs because debt reduction is seen by investors as "an "endorsement" by the international financial community that the government is effectively pursuing solid macroeconomic policies and structural reforms"(Claessens et al. 1996).The link between debt and capital flight, which leads to weaker economic growth, is close to this topic. The return on capital is decreased by the distortionary tax burden on capital necessary to pay the debt, according to a model devised by Calvo in Pattillo et al. (2002). Low returns on investments diminish investment and, as a result, economic development. Investors choose to move their money overseas rather than invest it in the nation since future returns are expected to be lower.

(iii) The Debt Overhang Effect.

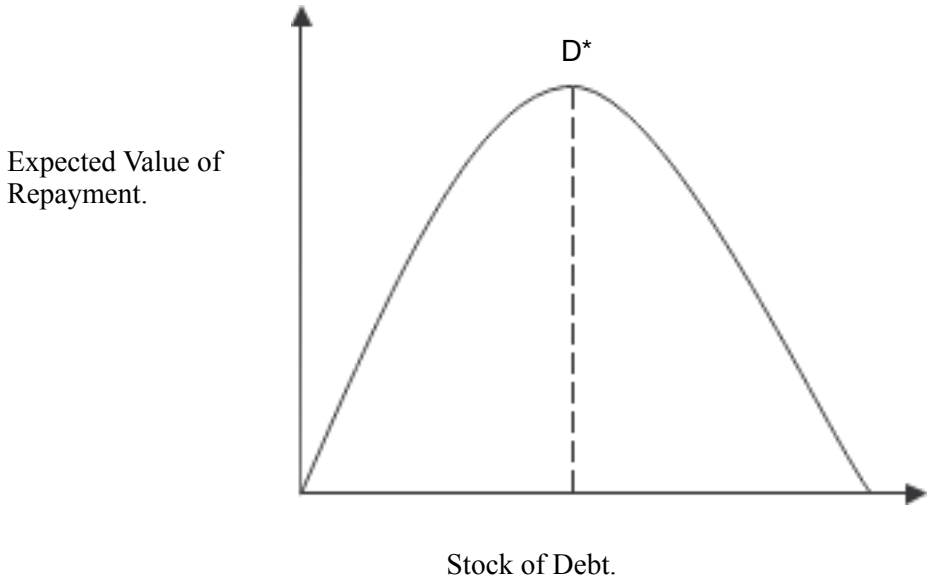
The debt overhang is described as a scenario in which creditors do not expect to be completely repaid due to the enormously large amount of debt owed to them. The debt overhang hypothesis is based on two studies by Krugman(1988) and Sachs(1989), which examine what occurs when a government is unable to make its debt obligations in full without incurring additional debt. "A nation has a debt overhang issue when the estimated present value of possible future resource transfers is less than its debt," according to Krugman.

The existence of the debt stock alters the incentives of both creditors and debtors, and debt reduction may benefit both. The former may have an incentive to keep lending in order to prevent a loss, in the hopes that the recipient's economic situation would improve and that all of its claims will be paid in the near future. The latter is discouraged from investing because he believes that all of the profits will be utilised to repay the loan, and that they will be taxed away in some manner. What's crucial for debt relief is that a debt reduction may be beneficial to both debtors and creditors, since lenders may be more likely to service remaining commitments in full, and borrowers may be able to minimise the distortions caused by the debt load on investment decisions. The debt-Laffer curve (shown in Figure 6.1, which portrays predicted repayments as a function of the debt's face value) illustrates the potential of this twofold advantage. A debt reduction enhances the possibility of re-

payment when the debtor nation is on the right side (the "wrong" side) of the curve. As a result, as long as the debt stock exceeds the crucial number D*, both creditors and debtors will benefit from debt relief.

Figure 6.1

The Debt Laffer Curve



The implicit tax, which is imposed on the debtor, distorts investment decisions and slows economic progress. Debt reduction might prevent or reduce this distortion. Investing is discouraged not just in physical capital, but also in human capital, as well as the adoption of new technologies and economic changes (trade liberalisation, fiscal reforms, etc.). The degree to which foreign assistance flows are decided, as well as the criteria used to determine them, may have an impact on the negative consequences. The debt overhang hypothesis' theoretical foundations can be applied to a broader interpretation of debt's negative effects on growth, such as the disincentive that a high debt stock has on other types of investments (such as human capital) and the government's willingness to implement structural reforms and fiscal adjustments ("extended" debt overhang). Despite the fact that its initial formulation focused on the negative impacts of big debts on economic development by discouraging physical capital expenditures, the scope of having a large external debt is quite broad, and it might affect the economy in a variety of ways, slowing growth.

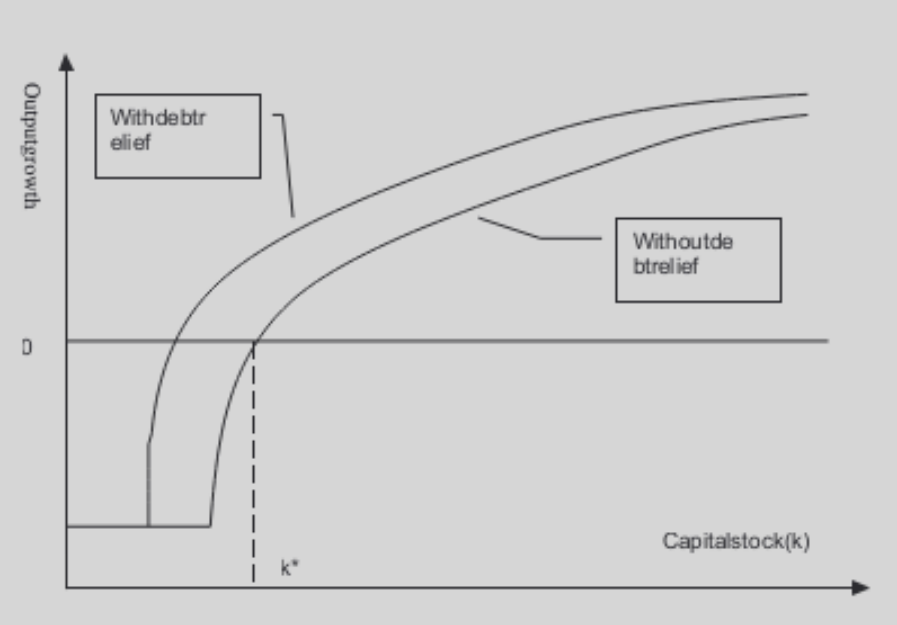
Sachs [2002] endorses a broad interpretation of the debt overhang effect in a model that illustrates how an unsustainable debt load might lock low-income nations in a cycle of poverty. Figure 6.3 depicts the impact of debt relief on economic development using the fundamental premise of non-lin-

earities in saving, investment, and output (based on the notion that when income falls below a minimal level of subsistence, the saving rate is zero).

Real growth is a function of the stock of physical capital k, and the accumulation of k over time is influenced by the saving rate, the rate of depreciation, and population growth, according to the model. When capital stock hits a very low level, the saving rate is projected to reduce drastically, resulting in a negative capital growth rate when k is smaller than k*. As a result, when k k*, the economy declines, and there is a poverty trap because, even if the saving rate is positive, it is so low that production and capital stock decrease to the point where the saving rate is negative, and the rate of decline equals (+ n). Whether k > k*, on the other hand, the economy expands at a faster pace since saving exceeds the quantity of resources required to replace capital per worker (n +)k.

Figure 6.2

Debt Relief and Output Growth.



Source : Sachs, 2002

This poverty trap model seems to be in line with the true situation in many impoverished nations, where saving rates are very low, as well as the debt overhang theory, which states that a big stock of debt decreases investment and diminishes capital stock. A poverty trap might also be induced by demographic pressures or the fact that, contrary to popular belief, the marginal productivity of k can be negative when k is extremely low, since capital stock can only become productive over a specific threshold. Furthermore, the poverty trap arises from the fact that private investment is unlikely to occur in the absence of governmental investment in human capital and basic infrastructure21.

Because a large debt load reduces the investment rate due to the debt overhang effect, HIPCs are likely to experience diminishing production. Debt reduction causes the curve in Figure 3 to move higher, allowing a decreasing economy to begin to expand. This result supports the notion of a new start for HIPCs, as well as a broader concept of debt sustainability that explicitly considers investment needs in health, education, and infrastructure.

6.6 Approaches to analyse the Sustainability of External debt.

The problem of ED sustainability is hotly disputed in both the theoretical and empirical literature, and there are a variety of approaches to debt sustainability that vary depending on the economic aims and the behaviour of lenders and borrowers taken into account. The heavily indebted poor country (HIPC) Initiative is based in part on the Debt Sustainability Analysis (DSA), which examines the behaviour of the borrowing nation and the country's desire and capacity to pay its debt commitments in the long run. However, the concept of debt sustainability is fairly complicated, and it needs typically take into account both the conduct of the borrower and the behaviour of the lender in order to be effective. In order for debt to be sustainable, the interaction between the economy of the debtor nation and the investment decisions made by creditors in the financial markets must take place.There are a variety of models available for dealing with the challenges of external debt sustainability. These are discussed as follows:

- Optimising models : The marginal benefit of borrowing equals the marginal cost of borrowing is propagated through optimising models. This was the very first strategy that was established by the theory.
- Non-OptimisingModels: Include the growth-cumulative-debt model and the debt dynamics method. As in the two-gap model, the external loan is utilised to close the gap between sedentary savings and investments in the growth-cum-debt model, which is similar to the two-gap model (Chenery and Strout, 1966). The requirement for being solvent is that the rate of rise of the economy must be higher than the rate of interest on the debt (the cost of borrowing). One significant flaw is the lack of attention paid to the problems associated with foreign currencies. The "debt dynamics" method examines the external solvency as well as the rate of growth in exports, which is now the parameter that must be greater be the rate of interest to be successful. Because the growth routes are supposed to be time invariant and imports are not taken into account, these models remain unsatisfactory.
- Fiscal space models: These models point to lower public expenditures as a result of debt servicing. More importantly, a lack of infrastructure and public expenditure has a negative

impact on private investments, which are discouraged, resulting in slower development as a consequence. Another method in which the cash flow impact harms the economy is via import compression, which lowers government investments and, as a result, lowers the pace of growth of the economy.

- Effects on disincentives: A significant stock of debt has adverse effect on economic performance because of the debt overhang effect, which is connected to the tax disincentive as well as to macroeconomic stability and stability. In the first scenario, which reflects the fundamental concept of debt overhang theory, a high stock of debt inhibits investment since it is believed that taxes on future revenue would be used to pay for debt repayments. In the second scenario, the disincentives are related to the potential for the emergence of macroeconomic instability as a result of depreciation of the currency, Increases in the fiscal deficit, monetary expansion and inflation, and uncertainty as a result of exceptional financing, among other factors.

A more thorough approach to external debt sustainability requires an understanding of the theoretical underpinnings of the two techniques of accounting approach and present value constraint approach of financial stability, as well as their respective theoretical underpinnings.

I.Financial Sustainability.

A fiscal deficit is deemed sustainable if it creates a steady debt-to-GDP ratio, according to the so-called accounting method or borrower-based approach. Here the debt sustainability is expressed in equation (1) as follows:

$$SURP_t = \frac{r_t - g_t}{1 + g_t} b$$

Where r is the real interest rate and g is the rate of GDP growth, b is the the amount of primary surplus (or deficit) that stabilises the debt-to-GDP ratio.It is obvious from equation (1) that a primary deficit may be sustained as long as the economy expands at a faster pace than the interest rate. What matters most is the government's ability to produce revenues sufficient to offset the growing debt stock. Because the grant component of GDP in LICs is a significant proportion of GDP (f), Cline (2003) argues that the prior requirement should be relaxed, and the primary balance should be defined as in equation (2)

$$Pb = (r-g)b - f.$$

In this method, he predicts that HIPC nations do not need to maintain a primary surplus, but may run a primary deficit of 7.2 percent of GDP without increasing their debt-to-GDP ratio over 106

percent. Loser (2004) points out that the debt-to-GDP ratio is affected by debt, real GDP, and the real exchange rate, but what matters most for long-term sustainability is the behaviour of the underlying variables, such as net transfers, interest payments, and exchange rates, as well as their impact on growth. Furthermore, the potential substitution impact between foreign and domestic debt, as well as the expected limits on the availability of additional funding, must be considered. Indeed, foreign borrowing is influenced not only by the financial gap and interest payments, but also by the balance of domestic and foreign borrowing, which influences the domestic interest rate and, as a result, economic performance.

The Present Value Constraint (PVC) technique (also known as the lender-based approach) determines whether a government is solvent if the flow of predicted future resources is at least equal to the face value of its debt stock. It is the traditional method for assessing the domestic debt sustainability, and it is expressed as follows as equation (3).

$$B_o = \sum_{t=1}^{\infty} \frac{SURP_t}{(1+r)_t}$$

Where B is the initial stock of debt, r denotes the real interest rate, and SURP denotes the future surpluses, which are determined by the gap between revenues and public expenditures. This is distinct from the accounting criteria, which sets an upper limit on the debt-to-GDP ratio. The Present Value Constraint (PVC) merely demands that the real growth rate of debt be smaller than the real interest rate, assuming that the real interest rate is larger than the rate of growth of Gross Domestic Product (GDP). The PVC is met if the rate of debt increase lies between the real interest rate and the rate of GDP growth, however the debt-to-GDP ratio may expand over time. Because the emphasis is on what amount of deficit may be financed, this approach does not demand the complete repayment of the debt.

II. Economic Sustainability.

From the development viewpoint, the generally used basic framework for evaluating debt sustainability is called into question, and two enhancements are recommended: taking into consideration the endogeneity of the primary determinants and widening the scope of the debt forgiveness goals. As a start, the development perspective looks at the links and relationships among various variables such as fiscal deficits and interest rates as well as resolution of endogeneity of economic expansion, rising prices, and the trade deficit/surplus, which is a result of the limitations of conventional techniques. Second, this technique takes into account the quantity of resources that debtor countries

would need in order to achieve certain development and poverty reduction targets (as the Millennium Development Goals).

Jeffrey Sachs, who has called for a review of the financial requirements for essential social and health expenditures, is one of the most outspoken proponents of this point of view, and he is one of the most well-known. His point of view is repeated in a number of articles published by Non-Governmental Organisations (NGOs), which emphasise the crucial role played by economic rise and poverty alleviation. The World Bank-International Monetary Fund report, on the other hand, does not specify the amount of resources that would be shifted to improve economic growth and relieve poverty when debt reduction is completed.

According to government plans, the monies freed up by debt relief would be used to improve health, education, nutrition, and infrastructure in the United States. There is no genuine expenditure target as a consequence, and there is no assurance of economic progress and, as a result, no guarantee of long-term sustainability. According to Martin [2002], some authors have shifted the focus away from debt ratios and toward debt service payments, which are a more direct indication of the resources used by external obligations than debt ratios. European Debt Dialogue (Eurodad) (2001) advocates a poverty-based approach to debt sustainability, highlighting the resources required to meet basic human needs, domestic debt (which should be prioritised above foreign debt in order to promote internal macroeconomic stability), and other non-essential spending.

III. A Comprehensive Debt Sustainability Strategy .

It is necessary to have a fully-fledged government budget constraint that takes into consideration not just the external situation but also domestic debt and exchange rates in order to have a comprehensive framework. To be sure, the government's budget restraint, as well as the increase of debt (both domestic and foreign) indicators, as well as other relevant macroeconomic factors, are crucial to the debtor's dilemma. An alternative way is the government budget constraint, which relates the fiscal deficit with the public debt as well as with the increase in output, inflation, and the balance of payments. Internal debt, in actuality, consumes resources and diverts cash away from development and growth initiatives, and it should be considered alongside international debt when evaluating the state of the economy.According to Goldstein [2003], even private sector commitments should be examined since they have the potential to become government duties (i.e. in case of a banking crisis, as happened in the Asian financial crisis). Despite the impact that the ratio of domestic debt to GDP in African countries is typically low, domestic debt appears to have a significant decline im-

pact on the budget due to large interest payments, as well as the fact that it crowds out private financing, according to Arnone and Presbitero [2005] and Christensen (2004).

IV.The Debt Sustainability Framework (DSF) .

The IMF and World Bank collaborated to create the Debt Sustainability Framework (DSF) to analyse the viability of public and external debt in low-income countries. The DSF framework is a method developed jointly by IMF and World Bank staff to evaluate low-income countries' capacity to service their public and ED and was endorsed by the Executive Boards of the IMF and IDA in 2001. The DSF mandates periodic “debt sustainability assessments” (DSAs).

The DSF's main purpose is to assist poor-income countries in making borrowing decisions that balance their cash requirement with their current and future ability to repay debt in a manner that is tailored to their specific circumstances. Official creditors and donors play a vital role in supplying these nations with additional development resources. As a result, the framework guides their lending and grant-awarding choices, ensuring that resources are delivered on conditions that are compatible with their long-period debt sustainability and progress toward the Sustainable Development Goals (SDG). Because of its forward-thinking nature, the DSF might act as an early warning system"for potential debt trouble, allowing for prompt intervention to avert a financial disaster. DSAs carried out under the DSF, according to the conclusions of a 2017 comprehensive analysis, include:

I. Realism tools that enable for a more in-depth look at baseline estimations;
II. A general, forward-looking look at how debt and debt service change over time, both with and without shocks, with shock sizes and interactions changed to reflect the country's past experience.
III. New customised stress tests have been introduced to correctly analyse country-specific risks deriving from contingent liabilities (compatible with public sector debt coverage), natural disasters, shifting commodity prices, and market-financing shocks;
IV. Improved discrimination across nations in the moderate risk category is provided by modules in this category, as is modular debt vulnerabilities (derived from domestic debt and market financing).

The DSF employs a single, standardised template for both external debt and public sector debt. The template's debt idea is based on the present value (PV) of debt, in recognition of the fact that concessionality is a significant component of LIC financing. The output tables and figures in the template illustrate the accuracy of the baseline forecasts, the debt and debt-service dynamics under the

baseline period, the outcomes of standardised different possibilities and stress tests, and the results of stress testing.The template is versatile enough that it may be tailored to match the demands of specific nations as needed.

When indices of external debt load are compared to thresholds, the central empirical result is that low-income nations with superior policies, institutions, assets, and macroeconomic prospects can tolerate a larger amount of foreign debt. Therefore, the DSF divides the world's nations into three groups, based on their capacity to pay their debts (strong, medium, and weak). The approach gives a baseline and three illustrative levels for each of the five debt load indicators based on these categories (assessed in terms of GDP, exports, and revenues). Better policymakers are associated with stricter standards.DSAs use these parameters and benchmarks to categorise the probability of external and overall debt distress into four levels: low, average, high, and in distress, depending on whether or not the thresholds have been breached.
Debt sustainability is evaluated using a combination of in-built framework risk signals and expert opinion. A risk signal is generated by comparing an indication of the debt load to the indicative thresholds discussed above, and this comparison is performed over a projection horizon. There are four different kinds of risks that come with the foreign public debt crisis getting worse:

- Low risk :If no signs of loan stress are in the baseline and stress tests exceed their respective levels, the risk is minimal.

- Average risk: If none of the debt load indicators exceed their levels in the baseline scenario, but at least one indicator exceeds its threshold during stress testing, there is a considerable danger.

- high risk: If any of the ED burden indicators exceeds the baseline scenario's threshold, but the country is not currently experiencing repayment difficulties.

- debt distress:-A nation is regarded to be in debt distress if it is experiencing difficulty servicing its debt, as shown by arrears, present or impending debt restructuring, or symptoms of a high probability of a future financial crisis event (e.g., debt and debt service indicators show large period breaches, or significant or sustained breaches of thresholds).

Table 6.1

Debt Burden Thresholds and Benchmarks under the DSF

	PV Of External Debt in percent of		External Debt Service in percent of		PV Of total Public Debt in percent of
	GDP	Exports	Exports	Revenue	GDP
Weak	30	140	10	14	35
Medium	40	180	15	18	55
Strong	55	240	21	23	75

Source : IMF Publication.

While the framework's categorization of risks is useful, human discretion is sometimes required for a complete risk evaluation. The severity of threshold violations and country-specific characteristics that are not completely accounted for by the framework may be better identified with the use of human judgement. By combining data on the current value of public debt to GDP with the four external debt burden indicators, the technique provides a signal for the total risk of public debt distress. The goal is to identify nations with high levels of domestic public debt.

6.8 Analysis and Discussion of the Results on External Debt Sustainability of the Indian Economy.

Public debt management concerns were raised by the Twelfth Finance Commission in 2004 because, from 1996 to 2003, the debt grew faster than GDP. Since 2004, there has been a little easing of concerns owing to the fact that the foreign currency reserves in 2009–2010 were about US$300 billion. By 2007–2008, both the federal and state governments were able to decrease their combined gross budgetary deficits to less than 4 percent of GDP (RBI, 2018).Due to India's expansionary fiscal policy in response to the global financial crisis in 2008–2009 and subsequent economic downturn, the country's sovereign rating has been downgraded from Aa2 to Aa1 and the country's fiscal policy has been questioned as a result. The present debt/GDP ratio in India (about 70 percent) is significantly greater than the long-term objective of debt/GDP of 60 percent set by the several Finance Commissions and constitutes a substantial danger to macroeconomic stability. The continu-

ously large budget deficits in India from 2008–2009 are regarded to be the primary cause of the record CAD of over 5% of GDP in 2012–2013. External debt in India has risen during 2017-18, after a decrease in 2016-17. After averaging 23.6 percent of GDP from 2014-15 to 2015-16, ED as a percentage of GDP stayed lower in following years at about 20 percent. As a result, India's GDP grew at a far faster rate than its external debt. A low debt service ratio and appropriate reserves for short-Period debt obligations (residual maturity), imports, and external financing requirements are the results of India's conservative policies in the external sector management sector.Currently, the biggest issue for Indian policymakers is reviving high growth. However, macroeconomic stability is a prerequisite for reviving high growth, and neither excessive debt nor deficits are conducive to either achieving nor maintaining that goal.

India's external debt indicators suggests that her external debt was modest during 1993-94 to 1997-98. However, from 1997-98, there was a decrease in indebtedness. It shows that India's foreign debt is appropriately managed and within sustainable bounds. The government's smart debt management approach is credited with the improvement in India's debt situation. The following analysis makes the picture more clear.

Following the 1991 Balance of Payments crisis, which prompted borrowings from the IMF, India was subjected to modified compensation and contingency funding. Imports were prohibited, but exports were encouraged, in order to build foreign currency reserves in order to provide emergency assistance. Additional efforts were focused at obtaining low-cost financing from financial institutions as well as getting international help on a binational and multinational scale, including the aid of the United Nations. All of these factors contributed to the increase of foreign debt.

Indian authorities have taken considerable policy measures year after year to guarantee that the country's foreign debt is put to productive use. Based on India's debt patterns and major ratios, it is obvious that the country's financial status is becoming better. Different figures and economic assessments from the Ministry of Finance, the Indian government, demonstrate that the country's foreign debt has been kept within acceptable boundsUsing changes in resource availability, cost considerations, and maturity structure, debt management strategies may be evaluated. While India was struggling with its current account deficits in the early 1990s, the government concentrated its efforts on increasing exports, building international reserves, liberalising exchange rate regimes, and attracting “foreign direct investment” (FDI). Therefore, in order to keep debt expenses under control, the Indian government encouraged non-debt-producing flows such as debt retirement and pre-

payment, as well as debt issuance on favourable terms, sovereign debt with longer maturities, more rationalized conditions and rates of return, and refinancing of higher-cost sources.

Debt prepayment is a critical component of a successful debt management strategy. It contributes to the improvement of international credit ratings by raising the status of foreign assets and liabilities. Aside from that, the removal of high-interest debt contributes to the reduction of debt payment responsibilities. NRI deposits are predicted to lower interest costs as a consequence of government legislation, which encourages the practice. The Indian government sought to entice foreign capital into bank accounts in the 1990s as part of its NRI deposit policy, by guaranteeing exchange rates and giving better interest rates than those available on the international financial markets. Following the adjustments, a clear plan was developed, with lower currency guarantees and interest rates than before. The monetary rates on all repatriable accounts were set in accordance with the "London Interbank Offered Rate" (LIBOR) (London Interbank Offer Rate). A significant reduction in interest payments on repatriable accounts was achieved as a consequence of these actions.

Table 6.2

Classification of Indebtedness According to the Debt Burden Thresholds.

PVEXD to XGS	PVEXD to GNP	Indebtedness Classification
PVEXD/XGS >220	PVEXD/GNP >80	Severe
132<PVEXD/XGS<220	48< PVEXD/GNP<80	Moderate
PVEXD/XGS<132	PVEXD/GNP<48	Less

Source : External Debt Sustainability Report (2001).

India's foreign debt management plan is incomplete without the inclusion of short-term borrowings, which have shorter duration profiles and higher repayment needs. Therefore, in an attempt to develop resources with a longer maturity term, the Indian government started issuing three-year external commercial borrowings (ECBs), decreased interest rates, and established an annual borrowing cap for businesses.

Through the use of automated and permitted methods, it is possible for Indian businesses to obtain new sources of financing. While allowing for more freedom in their use, they also help to keep the amount of debt they incur to a minimum. Indian companies have been able to get additional expo-

sure in international markets by altering the yearly limit and the end use of ECBs throughout the years.

The table 6.2 summarises the debt criteria used by the IMF and the World Bank to categorise the external debt load of nations through time. An economy is considered to be extremely indebted if its ratio of foreign debt to gross domestic product is more than 80 or if its ratio of ED to exports of goods and services is greater than 220. Similarly, a debt load is modest if the ratio of a country's foreign debt to its gross national product is between 48 and 80. Additionally, if the ratio of foreign debt to exports of goods and services is between 132 and 220. A nation may be categorised as an ED sustainable economy with controllable debt thresholds if its present value of ED to export of goods and services ratio is less than 132 and its present value of ED to gross national product ratio is below 48.The next table (6.3)shows how the Indian economy's debt was categorised by the IMF and the World Bank from 1991 to 2020, based on how much debt the country hadThe data was mainly collected from the various issues of the External Debt Status Reports, government of India. It gives a comprehensive picture about the debt burden of Indian economy over time.

Table 6.3

Classification of Indebtedness According to the Debt Burden Thresholds in India.

Year	PVEXD/ XGS Ratio	PVEXD/ GNP Ratio	Indebtedness Classification
1991-92	238	30	Severe
1992-93	225	28	Severe
1993-94	214	26	Moderate
1994-95	191	25	Moderate
1995-96	152	22	Moderate
1996-97	151	21	Moderate
1997-98	147	20	Moderate
1998-99	114	18	Less
1999-00	105	16	Less
2000-01	91	15	Less
2001-02	103	17	Less
2002-03	106	19	Less
2003-04	95	18	Less

2004-05	73	16	Less
2005-06	53	15	Less
2006-07	82	20	Less
2007-08	70	18	Less
2008-09	71	17	Less
2009-10	69	18	Less
2010-11	79	18	Less
2011-12	79	18	Less
2012-13	71.5	17.8	Less
2013-14	70.9	18.3	Less
2014-15	21.7	5.3	Less
2015-16	33.6	7.3	Less
2016-17	29.3	6.3	Less
2017-18	30.1	7.1	Less
2018-19	32.9	6.9	Less
2019-20	33.9	8	Less

Source : External Debt Status Reports (Various Issues), Ministry of Finance, Govt. of India.

The trend of debt sustainability in Indian economy can be explained as follows:

Period of High Indebtedness.

Since 1991, the Indian economy has accumulated a significant amount of External debt. Its indebtedness was classified as severe according to the debt burden thresholds as the current value of ED to Export of goods and service ratio is continuously more than the threshold level of 220.The high amount of gross external debt recorded by India in 1990-91 was blamed on the BoP crisis caused by recurring existing account deficits, which in turn to enhance the economy's borrowing requirements. As a consequence of the unfortunate BoP, prolonged current account deficits, and exchange rate swings, external debt increased. The Indian government originally relied on foreign financing; nevertheless, in order to solve the long-term balance of payment problem, it launched a gradual reform process.

During the economic reforms of the '90s, a conservative approach to credit flows was urged. All ECB borrowing would be subject to a ceiling, and the bank's access to short-period borrowing

would be severely restricted. Debt issued by the ECB has a minimum maturity of five years and may be used exclusively to finance the importation of fixed assets. Within the allocation, funding was prioritised for infrastructure development, exports, and small and medium-sized businesses. That stance has softened over time. The Foreign Currency (Banks and Others) [FC (B and O)] deposit scheme was terminated in July 1992 as a result of the strict narrow debt policy. The Foreign Currency (Non-Resident) (FCNR) account scheme for less than one year was terminated in May 1993, and the FCNR account scheme for less than two years was terminated in October 1993. Short-term debt fell from 6.1% of total international debt at the end of March 1989 to 3.5% of overall debt at the end of March 2001. Short-term debt accounted for less than 9% of foreign currency reserves at the end of March 2001. if short and medium-term loans with a residual period of less than a year were included, currency reserves would be less than 30% of total reserves [excluding gold and SDRs]. The government's deconstruction of the ECB was another aspect of this strategy, as was stricter regulation of government borrowing and more involvement from the corporate sector in the ECB. New institutional processes were established to guarantee that the ECB's governance and supervision were economically sound and in line with the liberalised approach. A debt management committee composed of senior officials and a task force charged with collecting information on the government's foreign debt have been established to facilitate regular reporting. The first international debt status report was published in October 1993, and since then, a specialised component has been developed to aid in debt management and monitoring. As a result of its success, this department was reorganised as the “External Debt Management Entity” (EDMU), which has improved debt tracking and administration.As a result of all these measures, the country was able to improve its indebtedness from severely indebted to moderately indebted and finally over the years its position have improved as according to the debt thresholds, we are less vulnerable to the debt burden.

Period of Moderate Indebtedness.

After the initiation of the economic reforms especially from 1993, the percent proportion of international, bilateral, IMF, export credit, and ECB loans in total ED increased significantly, while the percent share of rupee and short-period loans fell. Despite growing foreign debt, most financial health indicators indicate that a country's debt condition were improving, according to the statistics. This shift was attributed to government policies such as limiting short-term debt, concentrating on exports, and regulating debt-creating flows. As a result of all these factors, debt creating flows were controlled and non debt creating flows were promoted , also export promotion was the main agenda of the government to lift up the economy from the Balance of Payment crises. All these measures

found to be effective as the indebtedness indicators improved from severely indebted to moderately indebted economy.

Period of Less indebtedness.

From the year 1998 onwards, the Indian economy was showing positive signs and since then the debt management was so prudent that the debt threshold indicators are showing that the economy is less indebted or the external debt is sustainable in India. There are many factors responsible for this, In order to mobilise foreign reserves, the Government of India authorised the State Bank of India (SBI) to develop the India Millennium Deposits (IMD), Resurgent Indian Bonds (RIB), and India Development Bonds programmes from 1998 to 2000. (Finance Ministry, 2000) As a result, India's gross foreign debt has risen in proportion to its private debt.From 1995-96 to 2003-04, the proportion of ECB's NRI deposits and short-term debt in overall debt grew, as did the share of multilateral debt, bilateral debt, IMF loan, export credit, and rupee debt. Debt health indicators including the debt-to-GDP ratio and the short-period debt-to-GDP ratio improved over this period as well. The foreign reserve position has progressively improved as a proportion of total ED. Improved debt indicators were ascribed to a sound debt management approach that focused on rationalising interest rates on NRI deposits during this time period. The huge redemption of bonds, especially the India Millennium Deposit, caused a spike in ECBs during this time period (Ministry of Finance, 2007). Multilateral debt, bilateral debt, NRI deposits, and rupee debt as a percentage of overall debt decreased during this time period. There was a rise in the proportion of ECBs in total ED, bilateral debt, and export credit as a percentage of export credit.During this time, the foreign debt indices continued to improve. The major aspects of debt management strategy that resulted in this positive were sustainability, solvency, and liquidity. The majority of foreign debt is long-term (duration beyond a year), largely in the form of commercial debt, with just 19 percent being short-term, mostly in the form of trade credit. Over 95 percent of all short-period debt is in the form of trade credit. Because short-period credit develops as growth, the pro-cyclicality of short-period loan with enhance external stability. As the Indian economy worsened, imports declined 7.8% in 2019-20. Short-term trade credit has fallen by 1.0 percent to $101.4 billion at the end of March 2020. India's foreign debt is dominated by the US dollar, which accounts for 53.7 percent of the total at the end of March 2020.

6.9 Summary.

In conclusion, it is expected that even though we can have reasons to be optimistic on the management of India's external debt and its sustainability.But due to a lack of domestic savings, India is no exception to the tendency of amassing foreign debt as the economy expands. For many years, India's approach of permitting the private sector to access foreign loans has had an influence on the country's external debt. If as a consequence, as India's GDP increases, so will the country's external debt. The analysis shows that debt levels are sustainable in Indian economy even though the modest level of debt vulnerability, on the other hand, seems to be cause for little concern. More importantly we can hope that the rising domestic savings would reduce the need for foreign debt. Even if the debt is sustainable in the present doesn't means that it will be following this stable behaviour over time, there are chances for a slippage also. What it is suggested is that proper management of debt levels over time as the debt sustainability is very significant with respect to the macro economic performance of the economy.

CHAPTER 7
MAJOR FINDINGS AND CONCLUSION

7.1 Introduction.

External government debt generated as a result of consistent public borrowing doesn't operate in isolation; rather, it is an integral part of a nation's overall economic scenario. It has several layers of interaction with the economy and interacts with it in a variety of ways. In addition to the fact that external government borrowing is a component of fiscal policy and plays a role in the development of a competitive economy on an equal footing with taxation, monetary policy, and foreign exchange policy, it is also one of the most significant criteria for the establishment and development of contemporary economic systems. Many countries are facing an increase in their external public debt, which is threatening their macroeconomic stability. The prospect of significant economic disruptions and challenges in countries whose foreign debt growth rises to the point of becoming a debt crisis exists. As a result of the many advantages that foreign borrowing offers, many governments are reluctant to abandon it, which is a surprise. A major concern for all economies is improving the management, evaluation, and forecasting of external public debt in light of the existing regions of sensitivity to debt-related consequences. If the country's foreign government borrowing and economic expansion are not first watched and analysed, the country's economy will suffer. It will be impossible to manage the country's external government debt and economic growth. This will ensure information objectivity and enhance the quality of management decisions.

During the 1990s, the Indian economy was beset by serious domestic and international economic problems. The most critical of the international economic issues was the unfavourable trade bill coming from the Gulf crisis and the Iraq-Kuwait War. This resulted in a slew of domestic economic problems, including rising inflation, a big budget deficit, and the resulting spillover effects on the country's Balance of payment (BoP). The nation's economic position had worsened to the point that investor confidence had been harmed. It's worth mentioning that credit rating agencies downgraded India's credit rating during this time period, which is important. The Indian government proposed a series of corrective steps to strengthen the economy and restore it to normal levels, including long-term structural changes as well as short-term strategic plans, which included a focus on foreign resources to fill the gap created by domestic resource depletion.Exchange rate adjustments, exceptional finance mobilization, budgetary correction and consolidation, international cap on resource mobilisation etc.

The reorganisation of industrial policy and trade regulation were among the long-term structural reforms. These reforms aimed to make India's economy self-sufficient, self-reliant, efficient, and competitive, among other things, in order to increase capacity and facilitate exports. Accordingly, the recent government reports show that, India's ED is responsibly handled and within acceptable bounds. However, there are various issues raised by India's rising trend in external debt. The latter include the root causes of excessive debt, whether or not foreign debt has aided in national economic expansion; the country's capability to manage its ED, the impact of this debt burden on major macroeconomic variables; and the sustainability of the ED phenomenon in India. The current study is carried out to provide answers to these problems. In view of the above, this study explores some of the unique aspects of external debt in the context of the Indian economy. An attempt is made to describe the growth trajectory, pattern, and composition of external debt. The study also examines the role played by numerous factors in India's ED accumulation as well as how ED affects the country's macroeconomic performance. Additionally, it looks at India's capability to manage and sustain its ED.

With the above motivation, the present study examined the following specific objectives:

- *To analyse the trend, growth, structure and composition of external debt in India.*
- *To bring out the causal relationship between the external debt and saving-investment gap, fiscal gap and foreign exchange gap in India*
- *To analyse the Impact of public debt on Macroeconomic variables such as GDP, FDI, Foreign Exchange Reserve, Gross Fiscal Deficit and Net Exports in India..*
- *To analyse the external debt sustainability or vulnerability of Indian economy.*

The whole study study was organised into seven chapters , which is discussed as follows :

Chapter one comprises a prelude to external debt scenario in Indian economy, it is the introductory chapter which introduces the concept of ED, and deals with the causes of ED, the current debt position, and the role of ED in India. Apart from that, the statement of the problem, the objectives of the research, importance and the layout of the research is also presented in this chapter. This chapter also covers the methodology adopted for the study and limitations of the study

Chapter two is review of literature, it is devoted to the summary of a comprehensive review of the related literature and the methodology adopted in this study. It envelops the studies related to the international as well as the national scenario of external debt. Studies related to various aspects of external debt are also reviewed in this chapter.

Chapter three analysed the trend , growth, structure, and composition of external debt in India. It discusses the trend and growth of different components of ED in India, analysed the structure and composition of external debt in India. The chapter brings out if there is any change in the composition of ED in India and the factors behind it and magnitude of such changes. It also analysed the changes in the key external indebtedness indicators of Indian economy during the period under study.

Chapter four is about the causal analysis of the influx of ED into India due to the deficits. It employs secondary data to bring out the causal factors behind the external debt in India. Uses Uses Granger Causality test for finding the causal correlation with the ED and saving-investment gap, fiscal gap, and foreign exchange gap in India and draws conclusions about the possible impact of the three deficits on the External debt inflows to India.

Chapter five is about the macroeconomic analysis of the impact of external debt in India.It gives a macroeconomic overview of external public debt in India, investigates the possible variables that is most adversely impacted by the external debt scenario,It uses Vector Error Correction and ARDL model to analyse the impact of ED on the Macroeconomic variables, like FDI, GDP,GFD Foreign Exchange Reserve and Net Exports in India.

Chapter six is external debt sustainability analysis of the Indian economy. It presents the idea of debt sustainability by using a number of sustainability tools. It identifies the debt structure's or policy framework's sustainability or vulnerability early enough for policy reforms to be implemented before a debt trap develops. It also analyses the impact of various debt stabilisation policy paths in instances when such problems have happened or are anticipated to develop. The Sustainability of Debt Framework developed by the IMF is used to analyse the debt sustainability of the Indian economy.

7.2 Major Findings

The study was exploratory in nature, with a particular focus on India. The entire analysis was built using secondary data gathered from World Bank, IMF, RBI, and Government of India publications between 1990 and 2020. The findings of the investigation were examined throughout the study, and conclusions were drawn based on that. The most important findings are discussed as follows

7.2.1.Trend, Growth, Structure and Composition of External Debt in India.

- During 1990–1991, the Indian economy was plagued by persistent current account deficits, an unfavourable balance of payments, the knock-on effects of fiscal deficits, fluctuating exchange rates, and interest rate differentials, leading to a heavy external debt burden. However, the nation could keep its external debt within manageable limits as a result of the Indian government's sound external debt management policies and strategies that focused on obtaining low-cost debt and retiring high-cost debt.
- The percentage of government debt in the overall foreign debt has decreased throughout the years, which is a result of less dependence on outsider aid from both multilateral and bilateral origins.Increases in private sector debt have been seen., mostly due to growing commercial loans acquired by the private sector. Since the mid-2000s, the amount of short-term debt, particularly trade credit, has increased dramatically.
- On accordance of the creditor-by-creditor analysis, it is evident that the composition of creditor-by-creditor debtors in India has changed. As it shifted from multilateral and bilateral sources to commercial borrowings, NRI deposits, and short period credits.
- The percentage of non-government debt in total external debt rose significantly. As compared to other non-government debt components, the share of long-term debt grew the fastest. In addition, the financial section accounted for the widest percentage of long-term nongovernment debt, followed by private sector and the government sector.
- India's ED is mostly financed by the US Dollar, SDR, Indian Rupee, and Japanese Yen, as well as the Euro and Pound Sterling. US dollar is still the most widely used unit of account, proportioning to around 54% of the whole by the ending of March 2020.
- Concessional debt is overthrown with the growth of non-concessional debt, mainly after the Economic reforms of 1991.
- To assess the stability and sustainability of the financial stance , especially the debt burden several key indicators of external indebtedness are These indicators measures liquidity, sol-

vency and stability of debt phenomenon in India. Short-term loans, concessional loans, and foreign exchange reserves are all included in this list of ratios, as are foreign currency reserves and foreign exchange reserves. Examination of those indicators shows that the debt level is manageable and sustainable with respect to the Indian economy. Even though the level were vulnerable during the 1990's, the governmental interference and proper fine tuning of debt have resulted in the sustainable debt indicators.

7.2.2 The Causal Analysis of the external debt due to the deficits in India.

- It has been conclusively shown that resource gaps, particularly the saving-investment gap, fiscal deficit, and foreign currency gap, are responsible for India's yearly influx of ED.
- The yearly flows of external debt were the main cause of these resource gaps, but more crucially, the inverse link was also found, demonstrating that the externally borrowed resources were used optimally to bridge these resource gaps.
- These tests of causation showed a crucial causal relationship: neither the saving-investment difference nor the foreign currency imbalance was the result of the other.The theory of dual gaps was not supported by this result. Instead, the fiscal gap had been caused by the saving-investment gap. However, it was not accepted that the opposite relationship, in which a fiscal gap results in saving and investment gaps. The implication is that India's fiscal deficits were caused by an excess of investment relative to domestic savings.
- Numerous studies had already proven that current account deficits were not caused by budgetary deficits, but rather the opposite. Because the hypothesis that India's budgetary existing account deficits were caused by deficits. was accepted in our test of causality as well, the results of our test support the theoretical association between budgetary shortfalls and existing account shortfalls.
- The fact that the annual flow of external debt is accepted to be caused by the saving-investment gap suggests that external resources were brought into India to supplement domestic savings in order to achieve the necessary level of domestic investment. It has been determined that the borrowed funds from abroad contributed significantly to India's economic growth. The tests of causality, as opposed to regression analysis, more strongly establish this evidence.

7.2.3. Impact of public debt on Macroeconomic variables in India.

- According to the findings of the study, external debt has a positive association with gross fiscal deficit, gross domestic product, and foreign currency reserves in the short run.
- while it has a negative link with net exports and gross fiscal deficit in the short period.
- The long period relationship is different as it impacts FDI, GDP, and net exports negatively in the long -run but continues to affect positively the forex reserve in the long run.
- The analysis shows that the debt significantly influences FDI both in the short run and the long run. However, the short run coefficients are positive and the long-run coefficient is negative, indicating that the debt may attract FDI in short period but in a lengthy period it is going to have a bad effect in FDI inflows.
- GDP is highly influenced by the ED in both short period and long period. However, it affects the immediate term with adverse effects in the long term. This result implies that in the short rum the economy can reap benefit from the debt flow by using it to bridge the gap in development needs and also as an access to sufficient resources, if the domestic economy is not able to supply it up to the mark. But the long run tendency to depend upon debt is not sustainable. it can create issues like debt overhang and debt solvency related issues, which can hamper the smooth function of the economy by increasing tax rates and resulting in inflation.
- External debt in short run is significant and in long run insignificant to influence GFD in India. Either way, it is negatively affecting GFD. The negative relationship may suggest that an increased external debt may fund the budget, which may reduce the government's fiscal deficit.
- Our regression suggests positive impact of debt over the FOREX reserves, in long run and short run. FOREX reserve is usually used as a monetary policy tool to deal with the fluctuations in the foreign currency market and other external shocks. Foreign exchange reserves, in that way, is considered a significant category affected by the ED. In our analysis. It is implied that when debt increases, the reserves also increase, as they have a positive relationship.
- Models also imply that India's foreign debt makes a considerable contribution to the country's macroeconomic performance, as evaluated by a number of different key performance

7.2.4. Sustainability analysis of External debt in India.

- After the initiation of the economic reforms especially from 1993, the percent proportion of IMF, export credit, and ECB loans in total ED enhance significantly, since the percentage share of rupee and short-period loans fell. Despite growing foreign debt, most financial health indicators indicate that a nation's debt condition were improving, based on statistics.
- From the year 1998 onwards, the Indian economy was showing positive signs and since then the debt management was so prudent that the debt threshold indicators are showing that the economy is less indebted or the external debt is sustainable in India.
- Using benchmarks suggested by the IMF and World Bank, the debt sustainability position and evaluation also shows that India's external debt had been kept within manageable bounds. In an essence, the prudent debt management strategy adopted by the Indian government has allowed for the well-managed and sustainable levels of external debt in India.

7.3 Policy Implications.

There have been efforts made to control the expanding size and shifting composition of India's ED stock after experiencing the debt catastrophes of the 1990's. In addition to reducing the burden of debt servicing, measures were put in place to increase debt servicing capacity. Reforms in policy have already been put into place to improve the health of the external sectors. However, specific steps to lessen the weight of outstanding debt and the contractual obligations for loans that have already been committed have not yet received enough attention. After analysing the issue of India's ED, the current research makes the following recommendations to decision-makers.

- As a majority of the external debt is held by non-sovereign sectors, efforts should be made to improve the efficiency of the private sector industries and corporations.
- Since private debt carries a high interest burden, efforts should be made to justify and reduce privately owned debt so that the loan service burden can be reduced.
- The foundation of ED management rests on its sustainability. For this purpose, policymakers should focus on trade promotion and should continuously monitor the key debt indicators and provide effective policy measures over time.
- To increase FDI inflows, the government should raise the investment limits, rationalise sectoral caps, and in certain cases, caps should be removed. The removal of restrictions on mergers and acquisitions will also stimulate foreign investment inflows.

- The study showed that the fiscal gap causes the foreign exchange gap as well as higher annual debt flows. Unless the fiscal deficit is contained, it will be very difficult to reduce external borrowings in the years to come. Therefore, all out efforts have to be made to reduce the fiscal deficit.

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आज़ादी का अमृत महोत्सव

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A Granger Causality Analysis Between External Debt and the Deficits: Evidence from the Indian Economy

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Abstract: The external debt burden of India is mounting when the country's external debt to GDP ratio reached about 19.8 percent during 2019-20. The study uses the Granger Causality analysis to bring out the causal relationship between external debt and the three deficit which takes the form of three gaps. About six pairs of hypotheses are formulated to detect the nature of causation between the saving-investment gap, fiscal gap, foreign exchange gap on the one hand and the annual flows of external debt in India on the other. The conclusions emerging from the Granger's tests of causality are significant. Surprisingly, the theoretical relationship between the saving-investment gap and the foreign exchange gap is not supported in the Indian context.

Keywords: External Debt; Growth; Saving Investment Gap; Foreign Exchange Gap; Granger Causality Test; India JEL Classifications: C12, O40, F31, F34.

1. INTRODUCTION

To embark on the road to development developing countries are dependent on foreign as-sistance of capital to some extent. However, the degree of dependence varies with the eco-nomic conditions of a country in relation to the mobilisation of domestic resources. We can-not deny the fact that foreign debt or external debt has contributed in many ways to the process of economic growth and industrialisation of Indian economy. It is because domestic resources remained inadequate to meet the requirements of rapid economic growth during the past. India, like any other typical developing country has also emerged as one of the largest borrowers among the developing countries. External debt serves as an important source for financing the investment and imports and for achieving higher economic growth. After the economic reforms of 1991, the Government of India has achieved various types of long term infrastructure development such as roads, electricity, irrigation, health, rural development etc. The role of external debt for these types of development projects is important and most of the projects are financed by the external assistance.

The external debt component is an integral part of balance of payments and macroeconomic management and has a direct interface with macroeconomic variables, like, aggregate de-mand, aggregate output, price levels, exchange rate, etc., because they impinge on borrowing requirements, capacity to borrow and debt servicing capabilities (Ministry of finance, GoI.2019). As of now, the aggregate external borrowing scarcely leaves little re- source after meeting the total debt servicing payments for developmental needs. Here is an analysis to examine the various dimensions of India's external debt problems.

2. TRENDS IN EXTERNAL DEBT IN INDIA

In this section we examine the performance of India's external debt from 1980's in order to assess whether the growth in external indebtedness has decelerated the economic development or not. India's total external debt was $US 20.7 billion in 1980-1981 which kept on increasing at an annual average growth rate of 13.75 percent throughout pre-reform period reaching the level of $ US 85.4 billion in the crisis year 1991-1992. However, in the post reform period there was a remarkable improvement in India's external debt position as it grew at an annual average growth rate of 6.56 percent per annum only due to prudent external debt policies adopted by the government. The government incurred huge expenditures in the decade of 1980's particularly after mid 1980's in an attempt to move the economy on the path of market led growth. Some economic reforms stressing on pro-business orientation, greater role of market and incentives to exporters were introduced in early eighties. This was followed by reforms in field of Services sector, Science and

technology in the post 1985. This led to a surge in economic growth rate to 5.6 percent in 1980's thereby bringing economy out of 'Hindu Rate of Growth' of 3.5 percent. However, this turned out to be a 'debt led growth'. The huge spending led to growing fiscal imbalances throughout 1980's which inturn led to borrowings from Reserve Bank of India (RBI) thereby having an expansionary impact on prices. Fiscal deficits were also the prime cause of rising current account deficits that aggravated the external debt problem in eighties.

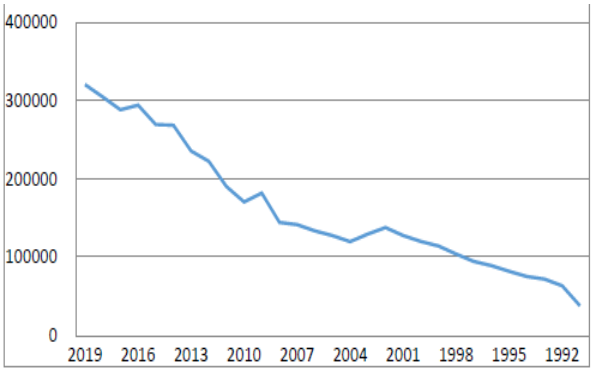

Figure 1: External Debt in India.

The average growth rate of external debt was US $ 27.4 billion during 1980-1981 to 1984-1985 but it increased to US $ 56.13 billion during second half of 1980's or 1985-1986 to 1989-1990 deteriorating balance of payments and putting excessive burden on foreign exchange reserves and Gross Domestic Product (GDP). However, the slowdown in India's external debt was not steady throughout the post reform period. The external debt kept on increasing till 1994-1995 on account of fragile economic situation which called for borrowing to initiate the programme of industrialisation along with covering up of deficits on government accounts. After 1994-1995 external debt had a downward trend on account of favourable economic indicators till 1999-2000 but witnessed fluctuating trends thereafter. In 2002-2003 India's external debt crossed the US$ 100 billion mark. The external debt during 2004-2005 increased to US$ 123.2 billion from US$ 113.4 billion in 2003-2004 due to the impact of fall of the dollar against other world currencies. In2005-2006 external debt fell down by $US 3 billion due to redemption of India Millennium Deposits worth $5.5 billion. During 2006-2007 the percent change in external debt over preceding year was highest at 31.86 percent when it reached to $US158.5 billion due to huge corporate borrowings over-seas by way by external commercial borrowings and foreign currency convertible bonds showing a surge in domestic investment activity. During 2007-2008 external debt again had a second largest increase when it increased by 28.01 percent in comparison to preceding period reaching US$ 202.9 billion due to weakening of US dollar against major international currencies and the rupee. This was exaggerated by the highest share of short term debt in total external debt which was 15.84 percent at $US 25.1 billion in 2006-2007 along with highest increase of 57 percent in commercial borrowings to $US 41443million ($US 41.4 billion) in 2007. This was followed up by highest increase in export credit by 44% when it reached to $US10328 million ($US10.3 billion) in 2008 accompanied by highest rise in bi-lateral debt by 23% to US$19708 (US$ 19.7 billion) in 2008. All this significantly con-tributed to ballooning of external debt in 2008-2009 and 2009-2010. In March 2010 India emerged as the major debt-ridden economy in the world. Ever since 2010, India continues to accumulate external debt and the trend still continues upto 2019.At end-June 2020, India's external debt was placed at US$ 554.5 billion, recording a decrease of US$ 3.9 billion over its level at end-March 2020. The external debt to GDP ratio increased to 21.8 per cent at end-June 2020 from 20.6 per cent at end-March 2020.

3. DETERMINANTS OF EXTERNAL DEBT IN INDIA.

The aggregate stock of India's external debt which stood at US $ 7936 million in 1970 in-creased to US $ 20581 mn in 1980 and reached the peak level of US $ 10264 mn in 1994, the highest level ever attained in Indian history. India!s external debt stock as a ratio of GNP was 11.9 per cent in 1980 and rose to 28.5 percent in 1990 and further to 37.6 per cent in 1992 (World Debt Tables 1997-98, p.280) India's external debt stock as a ratio of exports had also gone up from 136 per cent in 1980 to 335 per cent in 1992. As these indicators far exceeded the World Bank's yardstick. India was labelled as one of the heavily indebted countries (World Debt Tables 1988-89, p.21). India's external debt stock has grown at 15.66 per cent per annum during 1980!s and 1990!s. Short term debt and commercial borrowings recorded substantial growth during the period under review and in the

debt structure, the proportion of these two components had increased considerably. Around this period, India has also negotiated for a loan of 5 bn SDR from IMF under Extended Fund Facility (The Economic Survey, Government of India, 1985-86, p.73). As a consequence of extensive borrowings from commercial sources at harder terms, the aggregate debt service obligations has grown at 14 per cent per annum and the debt servicing of commercial creditors has registered a much higher growth rate of 31.6 per cent per annum during this period. The bunching of repayments to IMF appropriated around 24 per cent of the total debt service payments. Gulf war (1989), mounting debt service obligations, low foreign exchange reserves and withdrawal of foreign currency deposits by NRI's prompted the international credit rating agencies to downgrade India!s credit rating (Sunanda Sen, 1994), India had to face severe external liquidity crisis and was forced to ship out gold for mortgaging at Bank of England, for temporary accommodation. India, for tire first time began to feel the heavy burden of unsustainable levels of external indebtedness and the need to contain the growing external debt was felt at every level *viz.* Government, RBI, academic circles, research institutes and policy forums. Extensive researches were undertaken to identify the determinants of India's external debt stock.

Studies such as Varghese and Varghese (1988), Malati Anagol (1991), Nirupam Bajpai (1994) and Sunanda Sen (1994) have concluded that everwidening trade deficit was the principal factor behind India's external debt build up. However, the basic weakness of these studies is that they have not tested their hypothesis empirically.

Sunjib Pohit (1991) was the first study to empirically analyse the growth, structure and de-terminants of India's stock of external debt. His study pointed out that event though the re-serve accumulation and debt servicing, significantly influence the growth of external debt stock, the prime determinant was the method of financing current account deficit. Pohit used Bacha's (1983) decomposition model to decompose the current account components to identify the different sources of current account deficits. The conclusions that can be deduced from the analysis are: The significant determinants of India's external debt stock are: ex-ternal trade gap, the reserve build-up, the total debt servicing obligations, the inflow of NRI remittances, India's terms of trade and gross domestic investment of all the factors, the largest proportion of India's external debt stock is accounted for India's declining terms of trade (522.11) followed by total debt servicing (5.15) and trade balance (4.62). The problem is that these two factors *viz.* terms of trade and debt servicing obligations are exogenously determined and therefore India can do very little to contain them. Measures to derive a favourable terms of trade for India itself will be an another area of study and hence it is suggested for further research. Debt servicing is a committed obligation which cannot be reduced and so long as these two factors are dominant, India's external debt stock may not come down. External trade gap, reserve accumulation for precautionary purposes and GDI are the other significant determinants of India's external debt stock. In recent times, India!s exports are growing much faster than imports which may reduce the trade gap. External re-sources supplement domestic investment in the high-tech industries which is exported again, trade gap and GDI are not expected to mount much pressure on the external debt stock in future.

The inflow of NRI remittances has been the prime factor in arresting the growth of external debt build up. Had it not been tapped, India's outstanding external liability would have been much higher. But it is to be borne in mind that the inflow of NRI remittances is also a kind of borrowing in disguise. The inflow of the externally borrowed resources does supplement the domestic savings in financing the domestic investment. The resource flows simply do not mean the financial flows alone, but represent the physical flows in high tech areas that had gone into capital formation also. However, the magnitude of investment parameter in all the three models shows that the role of external debt in investment has not been dynamic enough as suggested by the dual gap theories.

4. THEORIES OF EXTERNAL BORROWING

The theoretical framework for analysing the external indebtedness is provided by dual gap theories of Mckinnon (1964), Avromovic (1964), Gerald M. Alter (1968) and Chenery and Strout (1966).

According to these theories, a developing country resorts to external borrowing due to the saving - investment gap or domestic gap and the foreign exchange gap or external gap. A typical developing country which is characterised by low levels of savings in the initial stages of development seeks more capital to finance her investments. The inadequacy of domestic savings to meet the required investment expenditure gives rise to domestic gap. Further, because of paucity of adequate capital goods with poor exports base, the import of capital goods, critical raw materials and intermediate goods become inevitable for her developmental commitments. Therefore, the demand for foreign exchange exceeds the avail-ability resulting in foreign exchange gap. Hence a developing country is forced to seek foreign exchange through borrowings to bridge these two gaps.

The emergence of dual gaps can be explained as follows with tire following macro economic accounting frame work for an open economy:

$$GDP = C+I+(X-M) \quad (1)$$

or alternatively, the same equation can be written as

$$GDP = C+S \quad (2)$$

To deduce saving and investment from these two equations, we can rewrite the equations (1) and (2) and we get

$$I = GDP-C-(X-M) \quad (3)$$

$$S = GDP-C \quad (4)$$

To determine the gaps, equation (4) is to be subtracted from equation (3) and we get

$$I-S = M-X \quad (5)$$

where

GDP = Gross Domestic Product

C= Aggregate consumption
S= Aggregate savings
I = Aggregate Investment

X =Exports

M =Imports

The left side of the equation (5) represents the saving - investment gap and the right side of the equation (5) refers to the foreign exchange gap. The theoretical implication of this accounting relationship is the equality between these two gaps. But in practice, it is not so because the factors that determine the saving-investment gap are different from the factors that determine foreign exchange gap. Therefore, the magnitude of these two gaps determine the quantum of external indebtedness. Higher the quantum of the gap, *ceteris paribus*, high-er will be the magnitude of external borrowing and *vice versa.*

The saving-investment gap is determined by the rate of savings and the rate of investment. Given the magnitude of domestic savings, the required level of external capital is deter-mined by the excess of investment over the domestic savings. Thus the level of investment is one of the determinants of external borrowing.

The foreign exchange gap is represented by the excess of aggregate demand for foreign exchange over its availability. The demand for foreign exchange is to meet the imports. The main source to earn foreign exchange is exports. For a developing economy, her imports are bound to be larger than her exports because of weak export sector and the need for more capital goods, etc. The excess of imports over the exports namely trade balance is the major factor which determines the size and magnitude of foreign exchange gap. Another source of demand for and supply of foreign exchange is the import and export of services. The component private transfers in current account refers to the remittances from emigrant workers to their countries of origin. In Indian context, NRI remittances constitute a substantial quantum of foreign exchange, providing a cushion in adjusting the current account deficits. The implication of this source is that higher the remittances, *paripasu*, lower will be the foreign exchange gap and lower will be the need for external borrowing.

Another determinant of foreign exchange gap is the accumulation of reserves. A developing country is always keen in maintaining a particular critical minimum level of international purchasing power as reserves in order to meet any unforeseen exigencies. Hence, the need to maintain adequate stock of reserves is yet another determinant of foreign exchange gap.

Yet another factor which determines the foreign exchange gap is the outflow of foreign ex-change towards debt servicing obligations. Amortization and interest payments are the compulsory components of debt servicing which in turn determine the size and magnitude of foreign

exchange gap. Thus, there are many factors both endogenously as well as exogenously acting each other in determining the size and magnitude of foreign exchange gap. That is why the saving investment gap does not match with the foreign exchange gap.

It may be observed that according to the theory, the foreign exchange gap is the major determinant of external borrowing. Since the foreign exchange gap, theoretically happen to merge with the saving-investment gap, the earlier studies have considered the current ac-count deficits as the best proxy for the foreign exchange gap. But few studies *viz:* (Varghese and Varghese, (1988), Malati Anagol (1991), Nirupam Bajpai (1994), Sunanda Sen (1994) have identified reserve build-up, and debt servicing commitments determine the external borrowings. Pohit (1991) having decomposed the current account, pointed out that India's declining terms of trade was also contributing to current account deficits.

5. SPECIFICATION OF THE MODEL

Given the theoretical framework of the annual flows, three variables are identified that might cause the external debt flows. The variables are operationalize into three gaps analogous to the theory. The gaps are: saving-investment gaps, fiscal gap and the foreign exchange gap. The familiar concept of causality tests as proposed by Granger (1969) are employed to detect the nature of causation between the saving-investment gap, fiscal gap and the foreign exchange gap on the one hand and the annual flows of external debt in India on the other.

The saving-investment gap (SIG) is defined as the excess of gross domestic investment over the gross domestic savings of the relevant years. The logical implication of saving-investment gap is that the paucity of domestic savings in meeting the domestic investment is expected to be financed by the external borrowings. Thus, the supplementary role of external resources in augmenting the domestic savings in development finance is being ascertained. Theoretically the saving-investment gap would get reflected in the foreign exchange gap which, in turn, would determine the annual borrowing needs.

Therefore it is hypothesized that

H1: Saving-Investment gap causes the foreign exchange gap. To confirm this theoretical relationship, another hypothesis to detect the presence of reverse relationship.

H2: Foreign exchange gap causes the saving-investment gap is also attempted.

Ho: The null hypotheses (Ho) for both Hi and H2 are as follows:

Saving investment gap does not cause the foreign exchange gap and the Foreign exchange gap does not cause the saving-investment gap.

The next relationship to be tested is the nature of causation between the saving investment gap and the fiscal gap. The fiscal gap (FG) is the overall budgetary deficits comprising of both central as well as federal governments. The overall budgetary deficits are arrived at the excess of government expenditure net of tax and nontax revenue including the resources mobilised through borrowings both internally as well as externally. Conceptually, the fiscal gap arises due to the excess of pubic expenditure over the public revenue. The public expenditure, in the Indian context, largely consists of developmental and non-developmental expenditure. The developmental expenditure refers to the expenditure incurred on public investment projects. Because of the constraints to mobilise domestic savings adequate enough to meet the required investment, the gap between the domestic investment and savings gives birth to fiscal gap.

It is, therefore, hypothesized that

H1: Saving investment gap that causes the fiscal gap but not *vice versa*. However, the manner with which the budgetary deficits are met and the sources through which the deficit finance is spent are critical of significance in detecting the causal relationship between saving investment gap and fiscal gap. Hence, the hypothesis to test the reverse relationship is conceptualised as

H2: Fiscal gap causes the saving investment gap

Ho: The null hypothesis (Ho) for Hi and H2 are the saving investment gap does not cause, the fiscal gap and the fiscal gap does not cause the saving-investment gap respectively.

Yet another plausible relationship associated with the saving investment gap is the annual flows of external debt. Theoretically it is the saving investment gap that causes the foreign exchange

gap which, in turn, leads to external borrowings. But in reality, the foreign exchange gap does not go hand in hand with the saving-investment gap. The foreign exchange gap is the culmination of accumulation of foreign exchange reserves, the movements in net barter terms of trade, the flow of remittances from non resident Indians, debt servicing commitments and the trade balance. It need not necessarily arise just to bridge the gap between the domestic savings and investment. A substantial portion of India's external borrowings happened to be tied with the project and technical assistance. Thus the investment role of imports may directly be related with the annual flows of external debt. Therefore, the third set of hypothesis is that

Hi: Saving-investment gap causes the annual flows of external debt and for the converse causal relationship

H2: The annual flows of external debt do cause the saving investment gap.

Ever since the recognition of fiscal gap as one of the causes for the foreign exchange gap, the analysis on the impact of fiscal deficit over the current account deficit has increasingly been attempted to in the recent studies which is popularly referred to as "twin deficit analysis". The theoretical framework of Mundel and Fleming (1962, 1963) established the link between fiscal deficit and the current account deficit through the movements of exchange rate and real interest rate. The expansionary fiscal policy, under the fixed exchange rate regime, generates higher real income which leads to higher imports and so higher trade deficits. Similarly, the increasing fiscal deficit under the flexible exchange rate regime, in-duces the real interest rate to move up. thus creating an avenue to attract foreign capital. The increased flow of foreign capital increases the external value of domestic currency which, in turn, culminates in reduction of exports and expansion of imports reflecting a higher trade deficits. Thus, conceptually, there is a strong casual relationship between the fiscal deficits and the current account deficits. The fourth set of hypotheses, is therefore, conceptualised as

H1: Fiscal gap causes the foreign exchange gap and to detect the presence of reverse relationship, the hypothesis is that

H2: The foreign exchange gap causes the fiscal gap

Table 1: Model Specification for Granger's Tests of Casuality

No.	Hypothesis to detect the casual relationship H_1 between	Model specification to test the Hypothesis H_1	No.	Hypothesis to detect the casual relationship H_2 between	Model specification to test the Hypothesis H_2
1	a SIG→FEF	$SIG_t = \sum_{j=1}^{n} ajSIG_{t-j} + \sum_{l=1}^{m} bjFEG_{t-j} + v_t$	1	b FEG→SIG	$FEG_t = \sum_{j=1}^{n} cjSIG_{t-j} + \sum_{l=1}^{m} djFEG_{t-j} + v_t$
2	a SIG→FG	$SIG_t = \sum_{j=1}^{n} ajSIG_{t-j} + \sum_{l=1}^{m} bjFG_{t-j} + u_t$	2	b FG→SIG	$FG_t = \sum_{j=1}^{n} cjSIG_{t-j} + \sum_{l=1}^{m} djFEG_{t-j} + v_t$

3	a	SIG→AFED	$SIG_t = \sum_{j=1}^{n} ajSIG_{t-j} + \sum_{l=1}^{m} bjAFED_{t-j} + u_t$	3	b	AFED→SIG	$AFED_t = \sum_{j=1}^{n} cjSIG_{t-j} + \sum_{l=1}^{m} djAFED_{t-j} + v_t$
4	a	FG→FEG	$FG_t = \sum_{j=1}^{n} ajFG_{t-j} + \sum_{l=1}^{m} bjFEG_{t-j} + v_t$	4	b	FEG→FG	$FEG_t = \sum_{j=1}^{n} cjFG_{t-j} + \sum_{l=1}^{m} djFEG_{t-j} + v_t$
5	a	FG→AFED	$FG_t = \sum_{j=1}^{n} ajFG_{t-j} + \sum_{l=1}^{m} bjAFED_{t-j} + u_t$	5	b	AFED→FG	$AFED_t = \sum_{j=1}^{n} cjFG_{t-j} + \sum_{l=1}^{m} djAFED_{t-j} + v_t$
6	a	FEG→AFED	$FEG_t = \sum_{j=1}^{n} ajFEG_{t-j} + \sum_{l=1}^{m} bjAFED_{t-j} + u_t$	6	b	AFED→FEG	$AFED_t = \sum_{j=1}^{n} cjFEG_{t-j} + \sum_{l=1}^{m} djAFED_{t-j} + v_t$

SIG-Saving investment gap FEG-Foreign exchange gap FG-Fiscal gap AFED-Annual flow of external debt
u_t and v_t are uncorrelated

The next set of hypotheses is to examine the nature of causation between fiscal gap and the annual flows of external debt. The resources that are contracted every year are found to be higher than the current account deficits. This is because, the borrowed resources are being utilised not only to finance the current account deficits but also to accumulate reserves as well as to meet the debt servicing obligations on schedule. Besides, the excess of investment over domestic savings is also expected to be financed by the external borrowings. But. at the same time, the excess of investment over the domestic saving would have been concurrently reflected in budgetary deficits. So, the simultaneous existence of saving investment gap and the fiscal gap is leading to external borrowings. Therefore, an element of ambiguity is shrouded around the nature of causation between the saving-investment gap as well as fiscal gap on the one hand and the annual flows of external borrowing on the other. To remove this ambiguity, it is hypothesized that

H1: The fiscal gap causes the annual flows of external debt and a reverse hypothesis that

H2: Annual flows of external debt do cause the fiscal gap

The final test of causality is to explore the nature of causation between the foreign exchange gap and the annual flows of external debt. Conceptually, it is the foreign exchange gap that would cause the annual flows of external debt because both saving- investment gap and the fiscal gap are theoretically expected to culminate in foreign exchange gap. Therefore, to detect the hidden nature of causation between the foreign exchange gap and the annual flows of external debt, a set of hypothesis is formulated. They are:

H1: The foreign exchange gap causes the annual flows of external debt and

H2: Annual flows of external debt are the cause for foreign exchange gap

The data for these variables have been obtained from Economic Survey, Ministry of Finance, Government of India. The annual average exchange rate is used to convert the rupee value of the variables into dollar values. The data on annual flow of external debt are taken from the World Debt Tables (Global Development Finance) World Bank, Washington. The period of coverage for the analysis is from 1990 to 2019.

6. TESTS OF CAUSALITY

Granger (1969) proposed, for a pair of linear covariance-stationary time series x and y: x causes y if the past values of x can be used to predict y more accurately than simply using the past values of y. Using the Granger's Tests of causality about six pairs of hypotheses are formulated to detect the nature of causation between the saving-investment gap, fiscal gap, foreign exchange gap on the one hand and the annual flows of external debt in India on the other. In the frame work of Granger's Tests for causality, if the estimated coefficients on the lagged variables of all the H2 equations are significantly different from zero and the estimated coefficients on the lagged variables of the respective Hi equations as a group are not significantly different from zero, then unidirectional causality is said to exist as stated in the respective six pairs of hypotheses.

The determination of appropriate lag length for the two causal variables is of critical significance in the Granger's causality Tests. The usual practice is to choose a lag length that ensures white noise residuals, which is a prerequisite for Granger's causality tests. Thornton and Batten (1985) have demonstrated that the rejection of null hypotheses of no Granger-causality is highly sensitive to lag length selection. Therefore, the present tests of causality employed different lag length ranging from one year to five years to each of the gap variables and the annual flows of external debt so as to determine the optimal lag length. Of the estimated coefficients up to five years lags in each causal variable, the optimal lag length is chosen such that the calculated F statistic reflected the highest level of significance in each equation. It was also observed that of different lag length ranging from one year to five years, the estimated F statistic reflected highest level of significance only at one year lag. Therefore, in ail the six pairs of equations, only one year lag was given in the casual variables. All the tests of causality for each hypothesis are tested through the conventional joint F test for which the equation is estimated both in terms of restricted and unrestricted form. The F value is given

F=RSS(R)-RSS(UR)/r / RSS(UR)/n-k

RSS (R)=Residual sum of squares of Restricted equations

RSS(VR) =Residual sum of squares of unrestricted equations Number of restrictions

r=Number of restrictions

n=Number of observations

K=Number of independent variables in the unrestricted equations.

The Problem of using F statistic is that it is biased by the sample size. Maddala (1992: pp 500-502) argues that the critical F value is inversely related to sample size which implies that we must accept (reject) H0 as the sample size decreases (increases). But in our analysis the sample size is sufficiently large (n-k =23) enough to avoid this problem. Although controversy pervades over the methodological issues of the causality, direct test of Granger causality has been most efficient (Guilikey and Salemi, 1982).

7. Conclusions from Granger's Tests of Casuality

The results of the six pairs of hypotheses tested, their respective F values, the levels of significance, statistical inference and the direction of causation detected through Granger's tests of causality are presented in the Table that follows.

Table 2: Results of Granger's Tests of Causality

NO.			Causal Relationship from x to y	F Value	Levels of Significance	Statistical Inference	Direction of Causality
1	a	H_1	SIG causes FEG	2.764	Not significant	Accept H_0	SI gap does not cause the FE gap
	b	H_2	FEG causes SIG	1.493	at 5% level	Accept H_0	FE gap does not cause the SI gap

2	a	H_1	SIG causes FG	6.097	5% level	Reject H_0	SI gap causes the fiscal gap
	b	H_2	FG causes SIG	2.615	Not significant	Accept H_0	Fiscal gap does not cause SI gap
3	a	H_1	SIG causes AFED	5.854	5% level	Reject H_0	SI gap causes the annaual
	b	H_2	AFED causes SIG	23.523	1% level	Reject H_0	flows of debt Annual flows of ext.debt causes the SI gap
4	a	H_1	FG causes FEG	8.698	1% level	Reject H_0	Fiscal gap causes the FE gap
	b	…H_2	FEG causes FG	5.014	5% level	Reject H_0	FE gap causes the fiscal gap
5	a	H_1	FG causes AFED	6.962	5% level	Reject H_0	Fiscal gap causes the annaual
	b	…H_2	AFED causes FG	8.936	1% level	Reject H_0	flows of debt Annual flows of ext.debt causes the fiscsal gap
6	a	H_1	FEG causes AFED	5.067	5% level	Reject H_0	FE gap causes the annaual
	b	H_2	AFED causes FEG	18.186	1% level	Reject H_0	flows of debt Annual flows of ext.debt causes the FE gap

SIG: Saving Investment Gap FEG: Foreign Exchange Gap FG: Fiscal Gap AFED: Annual Flow of External Debt
The Null Hypothesis (H0) is that x does not causes y

The conclusions emerging from the Granger's tests of causality are significant. Surprisingly, the theoretical relationship between the saving-investment gap and the foreign exchange gap is not supported in the Indian context, a conclusion Sunjib Pohit (1991) also arrived at. The results of Hi and H2 of first part showed that each gap is independent rather than interdependent. The absence of causation is due to the fact that the foreign exchange gap need not reflect the paucity of domestic savings over domestic investment.

Besides, there are causes also. Therefore the impact of saving-investment gap on foreign exchange gap and *vice versa* is insignificant.

The hypothesis that saving-investment gap causes the fiscal gap is empirically established (Theory holds good). The hypothesis of the reverse relationship is rejected. The acceptance of H1 and H0 in suggests that it is the excess of investment over the domestic savings is re-sponsible for the budgetary deficits in India. Thus, it is empirically established that the constraints in raising the domestic savings adequate enough to meet the requisite levels of in-vestment are the contributing sources of budgetary deficit in India. The casual relationship between the saving-investment gap and the current flows of India's external borrowings is established directly but not through the foreign exchange gap as conceptualised in the theory of dual gap. The acceptance of this hypothesis implies that it was the saving investment inequality that is hidden behind Indias external borrowings. The hypothesis for the reverse relationship *viz:* the annual flows of external debt in India had been the cause for the past domestic resource gaps is strongly supported. Thus, the investment role of external re-sources in supplementing the domestic savings in India is strongly supported a fact which is reflected in the regression analysis also.

The nature of causation between the fiscal gap (budgetary deficits) and the foreign exchange gap (current account deficits) in the Indian context is found to be bidirectional. But the level of significance for accepting the hypothesis that it is the fiscal gap that causes the foreign exchange gap is more convincing than by accepting the hypothesis for reverse causation. Besides a number of empirical studies (Iqbal zaidi (1985), Hakkio and Higgins (1985), Laney (1986), Cheng (1987) Miller and Russek (1989) and Resenweig and Tallman (1991) came to similar conclusion that it was the fiscal gap that caused the current account deficits of many developing countries. Manjappa and Hegde (1995) who captured the direction of causation between fiscal deficits and the current account deficits in the Indian economy also came to similar conclusion. Therefore, in our test of causality, the strong association between the fiscal gap and the current account deficits is found to be not only in accordance with the theory but also supports the conclusions of earlier empirical studies. The acceptance of the hypothesis of the reverse relationship in the present analysis that current account deficits cause the budgetary

deficit is also supported by the study of Emmanuel Anoruo and Sunjay Rama Chander (1998). Therefore, the nature of causation between the fiscal gap and foreign exchange gap was found to be bidirectional.

An element of ambiguity was prevailing while hypothesising the nature of causation be-tween fiscal gap and annual flows of external debt. The ambiguity is resolved by the results of the hypotheses H1 and H2 (at 1 per cent level). The results suggest that there exists a two way causation between fiscal gap and external borrowings. The explanation for this both way causation is sought through logical exercise.

Fiscal gap causes the foreign exchange gap and foreign exchange gap causes the annual flows of debt. Therefore, by deductive reasoning, the fiscal gap is expected to cause the annual flows of external debt which is accepted as per Granger's test of causality. Therefore, it may be interpreted that the fiscal gap causes the annual flows of debt disguisedly through the foreign exchange gap. Similarly, the acceptance of the hypothesis that the annual flows of external debt do cause the fiscal gap is sought to be obtained logically again. The flows of external borrowings are the causes for the saving investment gaps and the saving investment gap causes the fiscal gap and therefore, by deductive reasoning it may be inferred that the flows of external borrowings are expected to cause the fiscal gap which is a statistically accepted. Thus it is now established that the annual flows of external resources do create fiscal deficits disguisedly through saving- investment inequality. The direction of causation be-tween the fiscal deficits and flow of external resources and *vice versa* is caused by foreign exchange gap as well as saving investment gap. However, the impact of saving-investment gap is found to be relatively more than by the foreign exchange gap in determining the fiscal deficits.

The sixth pair of Granger's test of causality suggests that there exists a bidirectional causa-tion between the foreign exchange gap and the flows of external borrowings. Theoretically the foreign exchange gap is expected to be the cause for external borrowings. The hypothesis reflecting such a relationship is statistically significant and therefore accepted. But the hypothesis for the reverse causation which is also found to be significant at a higher level of significance seems to be quite contrary to the theoretical relationship. The plausible explanation for the reverse causation may be due to the simultaneous operation of saving-investment gap and fiscal gap for which the annual flows of external borrowings are the cause. Evidently both the hypothesis are found to be significant at higher levels of significance.

The general conclusion from the Granger's tests of causality is that the resource gaps namely the saving-investment gap, fiscal gap and the foreign exchange gap which are conceptualised as the causes for India's external debt flows are significantly established. But, on the contrary, the reverse causal relationship *viz:* the annual flows of external debt have been the cause for these resource gaps is found to be more significant. The direction of causation from the annual flows of external debt to these resource gaps suggests that the externally borrowed resources would have been utilised to fill up these resource gaps. The causality tests to detect the direction of causation both undirectional and bidirectional between the saving investment gap and the foreign exchange gap is quite contradictory to the dual gap theory. Secondly, it is the saving-investment gap that causes the budgetary deficits in India since 1970 whereas it does not lead to current account deficits. Thirdly, the evidence on the direction of causation of budgetary deficits to current account deficits is found to be relatively more significant than the *vice versa* causation and in confirmity with the theory. Fourthly, the argument that domestic savings are supplemented by external borrowings to meet the required levels of investment in India's development strategy is empirically sup-ported. On the whole, the externally borrowed resources have been found to have played a positive and dynamic role in India's economic development.

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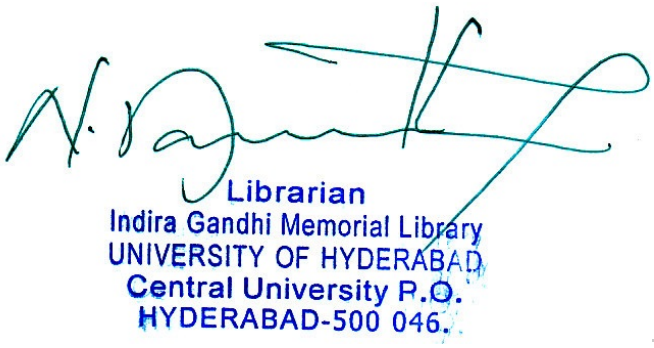
by Bineetha P Bose



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