A Study on Relationship Between Foreign Debt, Investment and Productivity of Indian Economy

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ABSTRACT

In this era, the global economies are inter-related and inter-dependent. This dependency is vital for the growth of an economy of any country; therefore, it is a need of hour to assess the degree of inter dependence between economies and their impacts on the overall performance of respective counties. The paper examines the relationship between Foreign Debt, Investment and productivity. The study addresses the research objectives like impact of external debt on Indian economy, examining productivity of various sectors, study the growth and Investments in country, highlighting issues for effective use of foreign debt and to suggest an optimal solution to increase productivity, investment as well as to manage external debt.

To examine or testify relationship between Foreign Debt, Investment and productivity Structural Vector Autoregression (SVAR) methodology is adopted. This methodology houses the dynamic relationships among economic variables, which are broadly constant with economic theories and facts. The paper captures the data of India's debt, Investment and productivity and tries to establish the relationship and address the issues of effective use of external debt to boost the economy by efficiently using the various resource especially labor. If Foreign debt is utilized on productive activities like capital formation or spent on acquiring and maintaining technologies for efficient use of resources, then it will help to build the economy. It will point out the loopholes in utilization of foreign debt, and resource utilization and give solution to avoid those loopholes.

The tentative conclusion of the current research stated the data which shows how the graph of economic growth can be explained if we consider foreign debt. It appears that resources generated through debt are basically utilized in an unproductive way, as the productivity data (especially labor) indicates a decline or very less labor productivity which signifies that country is lagging in skilled man-power which is a vital component for economic growth. Through the data, we cannot claim economic stability because we still have lower productivity. Though Foreign Direct Investment (FDI) is smooth and it depends on political relations with foreign countries and their firms and FDI have shown a positive relationship with Foreign Debt but still, there is long way to go. So, at the end after analyzing data it is evident that Foreign debt does not have a direct impact on Investment, and productivity significantly. It totally depends upon its usage by country. Though debt taken for long-term shows some impact it can be overruled if the debt is used wisely on productive activities like capital formation.

Keywords: *Foreign Direct Investment; Structural Vector Autoregression model; Labour Productivity; Domestic Saving; Foreign Capital flows; Government and Non-Government External Debt; inward and outward investment.*

1.0 Introduction

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In this era, the Worlds economics are inter-related and inter-dependent. This dependency is vital for the growth of an economy of any country. As in literature there is saying “United we stand, divide we Fall” so is the scenario of global economy today. The point is that any country cannot stand alone economically, basically it has to have some relation with other countries and have stand in global economy. The economic development of countries all over the world contributes towards global growth and welfare. The development of economy depends upon various factors such as efficient use of natural resources, man-power, and have frictionless capital flow through banks. Banks being the backbone of economy, cash flow through it should be very transparent and efficient. For the development of an economy, often countries have various means of finance like finance through the surplus from public sector, taxation or to take loan from other countries (Foreign Debt) or to take loan from national banks internally i.e. internal Debt and to regulate the foreign policies so as to encourage foreign investment. The word “Debt” had been an issue to talk about because economists have different point of view about it. Some says it is an important source and have positive impact on economic growth of country if handled carefully. While some says it is bad for the economy of a country since it hampers its growth. While Economic theory suggests if debt levels taken by country were kept reasonable, efficiently utilized then it will boost the economy of country. As long as if borrowing country produces an output higher than the cost of foreign debt it will be productive for that country. If productivity and output of the country as well as export are good, then no doubt that the value of domestic money increases which will eventually lead to surplus which then can be spend on the investment. And also helps to grow domestic market which will attract foreign investment in country, eventually leading to economic stability in country. Foreign Relations also play a vital role in developing economy of a country.

India being a developing Nation do take external assistance either in grants or loans [10]. Earlier during 1980’s nearly 75% of external assistance was in the form of grants, the percentage of grants gradually decreases to 25% in 1990’s as the country’s potential increased. Now, nearly 90% of our external assistance is in the form of loan. From 2009 to 2014, India’s external debt ranges from 80.8% to 79.5%. and Short-term ranges from 19.2% to 20.5% by creditor category. On 31 December 2018, it stocks totaled US$521.2 billion from all seven components i.e. Multilateral, Bilateral. India’s GDP rate ranges from 5.5% to 6.7% from 1990 to 2017, while it was 10.4 in 2010. In 1991, India introduced the National Economy Policy, which was focused on Liberalization, Privatization, Globalization paved a way towards Foreign Investment. The Following paper will focus on India’s GDP, Foreign Debt and Relations, Foreign investment and productivity.

2.0 Review of Literature

Foreign Debt has an impact on various parameters that are bases of Economic development such as Domestic capital formation, generation of employment, rate of interest, production factors esp. labor, inflation, and GDP.

Joshi (2007) in his paper on Role of Domestic Saving and Foreign Capital flows in capital Formation in India. He mentions that higher savings lead to higher investments (foreign cash inflow in the Indian Economy) and vice-versa. Based on the empirical analysis on long time series data on various components of gross saving and NAS (National Account Statistics) and BOP statistics he concluded that there is a stable relationship between capital formation and various components of savings. He further explains that capital account formation played an important role in equalizing the steady-state equilibrium by avoiding short-term disturbances in the process of capital formation cycles. Not only this it also has the potential to influence the growth positively both in the short and long-term. Though his research only talks about the Domestic saving and does not specify the impact of foreign debt it is worth notifying that as long as a capital formation is stable implies that the country's economy is stable and hence foreign debt won't be an issue for the growing economy.

Ray (2012) in her research paper on the Impact of foreign direct investment on economic growth in India: A Cointegration Analysis. she tested the co-integration between GDP and FDI in India and its causes and effects. It comes out that there is a positive relationship between foreign direct investment and GDP and vice versa through the least square method. The paper also indicated that FDI didn't contribute much to the economic growth in India for the time period between 1990-91 to 2010-11. The paper suggests that the government needed to focus on improving infrastructure, human resources, developing local entrepreneurship, creating a stable macroeconomic framework. The reason to review this paper is that foreign debt and foreign investment are very much co-related since foreign investment will help developing countries like India to grow economically which will result in ineffective use of resources and increase the output of a country, resulting in surplus which will reduce the burden of foreign debt. Or if the foreign debt is well spent to enhance foreign investment or spent on creating a stable macroeconomic framework that FDI will be noteworthy for the economic growth of India.

3.0 Objectives

The Research objectives are as follows:

- To study the impact of external debt on Indian economy.
- To examine productivity of various sectors.
- To study the growth and Investments in country.
- To highlight issues for effective use of foreign debt.
- To suggest an optimal solution to increase productivity, investment as well as to manage external debt.

4.0 Methodology

To examine or testify relationship between Foreign Debt, Investment and productivity Structural Vector Autoregression (SVAR) methodology is adopted. This methodology houses the dynamic relationships among economic variables, which are broadly constant with economic theories and facts.

5.0 Foreign Debt

Foreign debt is loan or credits taken from international organizations such as World Bank, Asian Development Bank or Inter-American Development Bank or from countries. India borrows from these organizations to diversify its currency denominations of debt or because its own country's debt market is not deep enough to meet their needs. This debt is issued for the short term or for the long term. India do take credits and loans from other countries. Components of FD (Foreign Debt) include multilateral, bilateral, IMF and Export credit.

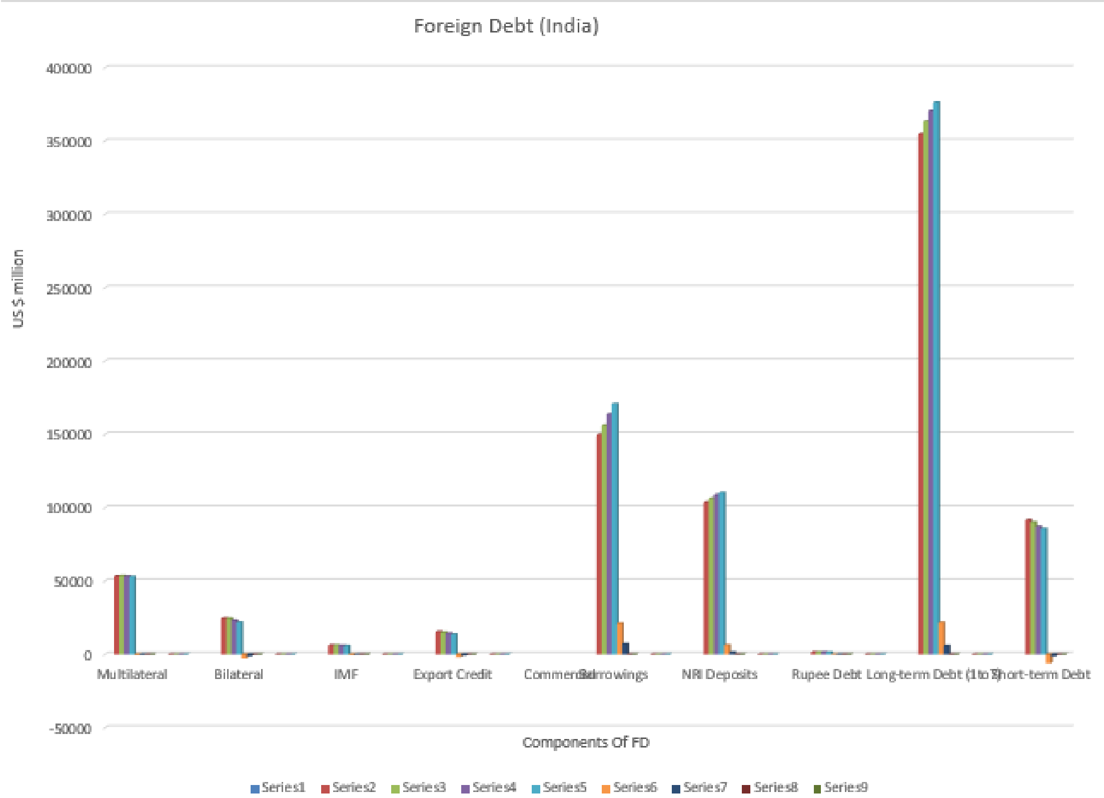
Multilateral or Multilateralism is an alliance of multiple countries pursuing common goals etc. India after introducing a policy of LPG i.e. Liberalization, Privatization, Globalization in 1991 do take part in Multilateral alliances. Today India is a member of WTO (World Trade Organization). Whereas Bilateral is an alliance between two countries which results in the Trade agreement between them which may include a reduction in tariffs and import duties.

As mentioned in Table#1, Long-term debt increases by 6.1 percent at end December 2014 over the period at End-March 2014 due rise in commercial borrowings and NRI deposits. Total 60.8

per cent of total external debt (long-term and short-term) at End-December 2014 as against 56.8 per cent at End-March 2014 is accounted by Commercial borrowings and NRI deposits.

Short-term debt faced decline at End-March 2014 over End-March 2014 level due to debt component of FII flows and trade related credit. It declined by 6.7 percent to US $85.6 billion at End-December 2014 over the End-March 2014 level. Total external debt was 18.5 per cent at the End-December 2014

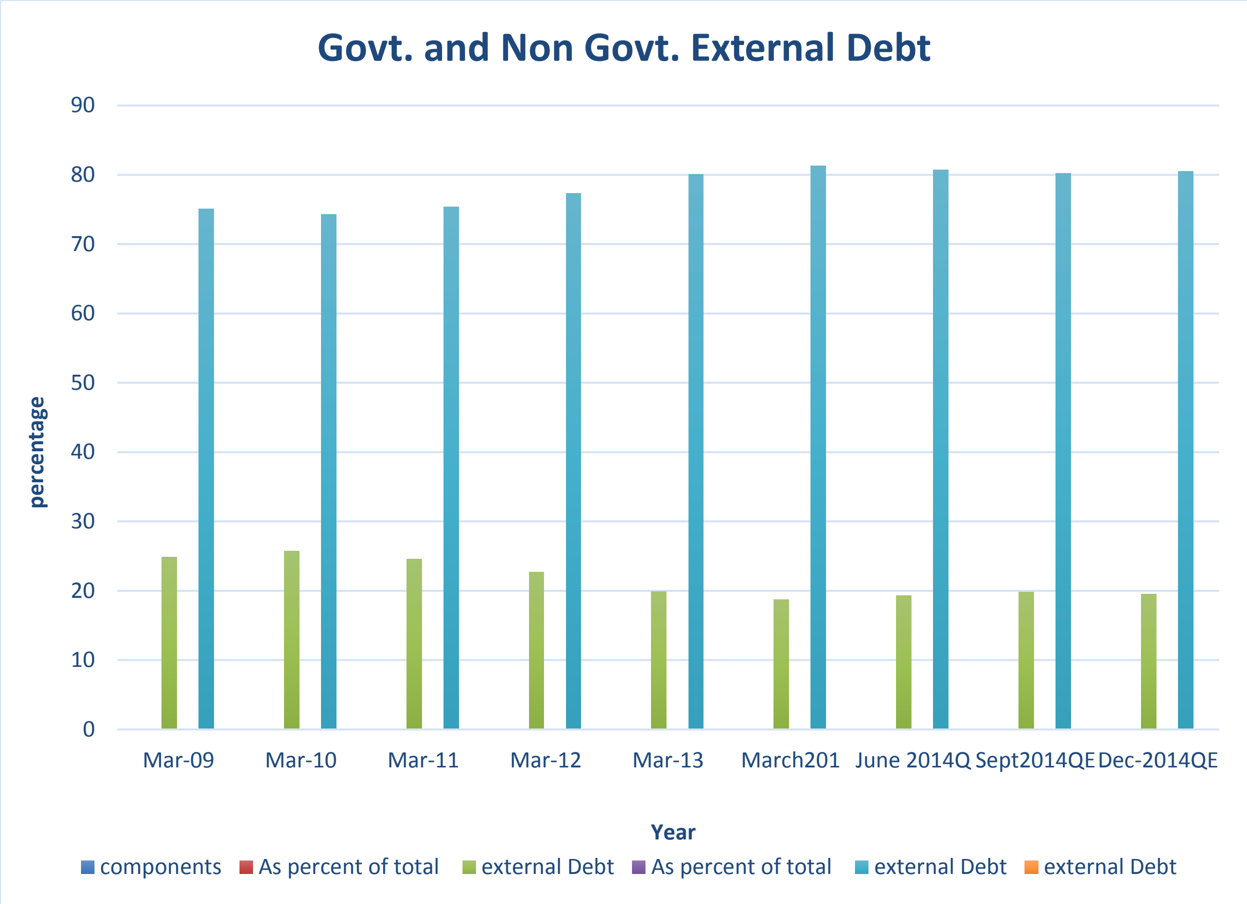
Components-wise share of India's External Debt at End-December 2014 (per cent)



Government and Non-Government External Debt

External Debt of India was US $ 90.1 billion having share of 19.5 per-cent of Government debt. Ratio of Government Debt to GDP has remained below 5.0 per cent for past years. The following table contains Government and non-Government debt.

Share of Government and Non-Government External Debt in Total External Debt



Source: RBI

In above graph the Dark-Blue is Non-Govt. Debt and gray is Govt. Debt.

From the graph it is evident that Non-Government Debt takes Maximum per cent of total external debt right from End-March 2009 to End-December 2014.

External Debt currency composition

The composition of currency in Foreign/External Debt is presented in chart no. 1.

From the chart no 1, it is evident that major portion of debt was in US dollar followed by Indian Rupee.

The chart no. 2 refer to borrowing from International Development Association (IDA) i.e. the soft loan window of the world Bank under the multilateral agencies and SDR allocations by the International Monetary Fund (IMF).

The chart indicates that SDR dominates Debt by 32.1 per cent. SDR i.e. special Drawing rights are supplementary foreign exchange reserve assets define and maintained by the International Monetary Fund(IMF). It is allocated by IMF to countries and cannot be held or used by private parties.

Investment (inward and outward)

ISBN: 978-81-950136-2-3

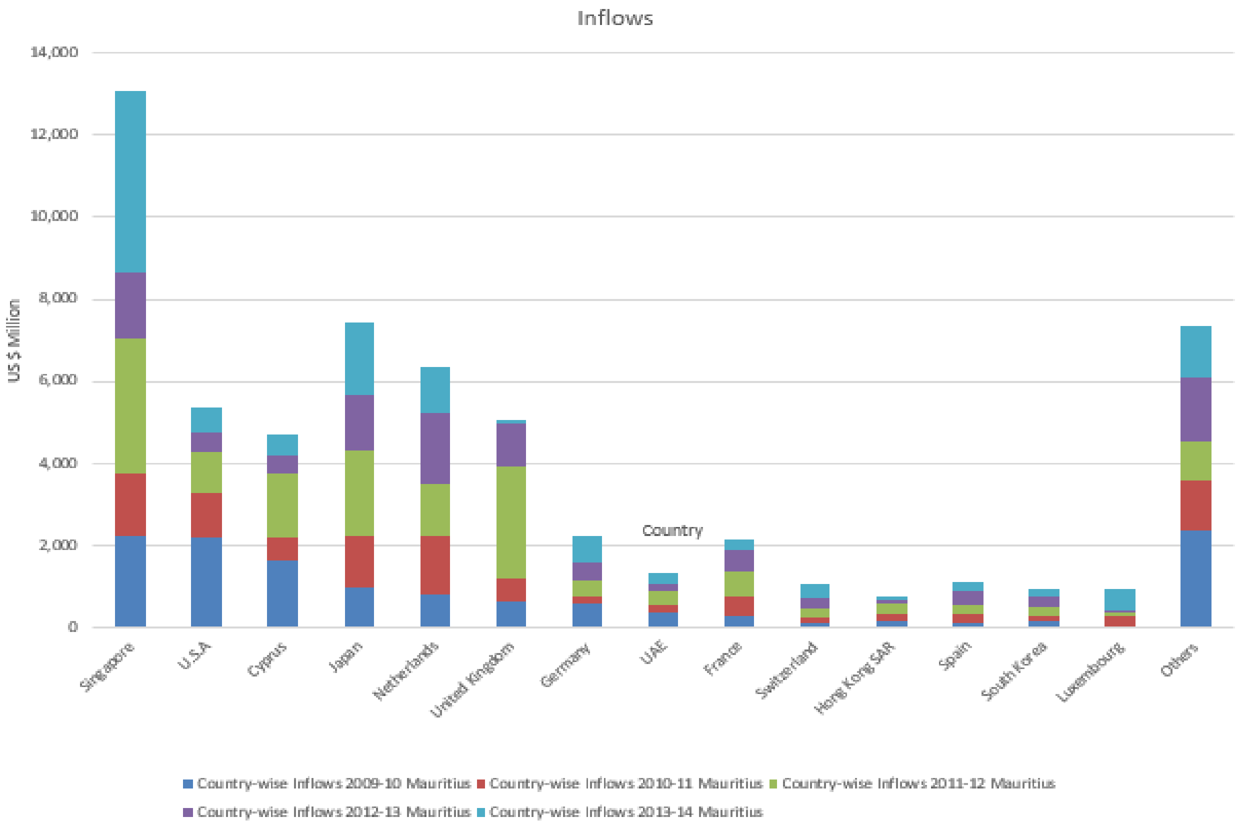
Investments is an important factor in developing one's economy. After an economic reform in 1991, India has many foreign investment and outward foreign investment i.e. both inflows and outflows.

Table#1
Year on Year Growth

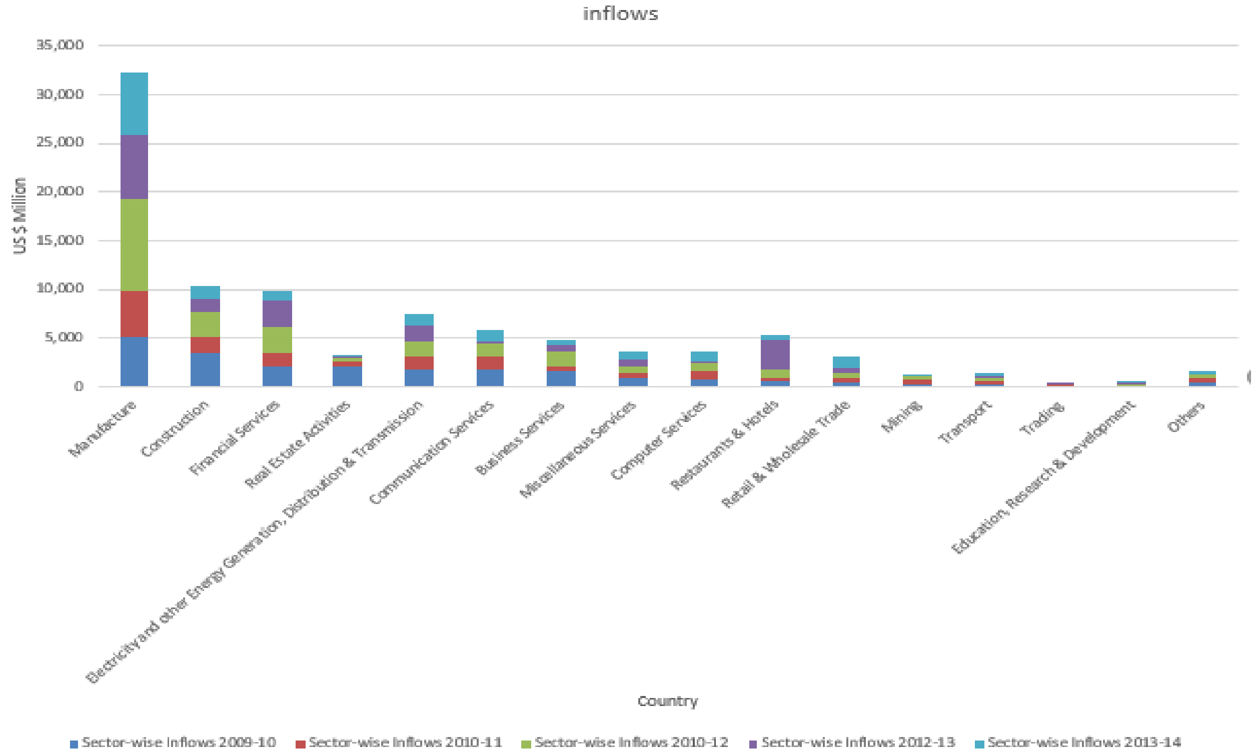
Indian Foreign Direct Investment					
(US$ million)					
Source/ Industry	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18 P**
1	**2**	**3**	**4**	**5**	**6**
Total FDI		0.54	0.46	0.01	0.03
Country-Wise Inflows					
Mauritius		0.59	0.27	0.80	0.00
Singapore		0.16	1.43	-0.48	0.42
Netherlands		0.86	0.08	0.39	-0.17
USA		2.21	1.08	-0.48	-0.08
Japan		0.12	-0.10	1.33	-0.69
Cayman Islands		1.88	-0.02	-0.09	0.3
Germany		0.45	-0.02	-0.09	0.3
Hong Kong		2.82	0.06	-0.61	6.79
United Kingdom		16.04	-0.55	0.55	-0.45
Switzerland		-0.18	-0.33	1.57	0.01
UAE		0.37	1.94	-0.33	-0.37
France		0.52	0.13	0.24	-0.17
China		3.17	-0.09	-0.57	0.77
Italy		-0.1	0.67	0.3	-0.15
South Korea		-0.27	0.75	0.93	-0.37
Cyprus		0.35	-0.34	-0.42	0.03
Canada		12.91	-0.66	-0.38	7.56
Others		0.03	0.33	-0.34	0.27
Sector-wise Inflows					
Communication Services		-0.14	1.45	1.23	0.5
Manufacturing		0.51	-0.12	0.42	-0.41
Retail & Wholesale Trade		1.24	0.57	-0.31	0.62
Financial Services		2.00	0.15	0.05	0.09
Computer Services		1.31	1.01	-0.55	0.64
Business services		0.31	3.46	-0.11	0.12
Electricity and other energy Generation, Distribution & Transmission		0	0.06	0.26	0.09
Construction		0.29	1.53	-0.62	-0.18
Transport		0.55	1.83	-0.35	0.42
Miscellaneous Services		-0.38	0.74	0.78	-0.54
Restaurants and Hotels		0.9	0.3	-0.52	0.05
Real Estate Activities		0	-0.45	-0.06	2.86
Education, Research & Development		0.22	2.01	-0.48	0.69
Mining		4.38	3.62	-0.76	-0.42
Trading	0	-1	0	0	0
Others		-0.21	-0.07	1.19	-0.52

Source: RBI

The chart includes country-wise as well as sector-wise inflows. All this FDI are through SIA/FIPB and RBI routes only.



Sector-wise inflows



Outward Foreign Direct Investment

India also has outward foreign investment in many countries. Which also brings some value to Indian economy. Since 1995 to 2014 there is boom in India's outward flow as shown in graph no.1

Sector-wise outward Foreign Direct Investment (OFDI)

As in Table No. 4 of sectorial OFDI wherein there is increase in number of firms from each sector who are investing in foreign countries and output of each sector is also shown. The growth in Indian firms investing in other countries due to possessing favorable treaties covering bilateral investment, double-taxation avoidance or economic partnerships with India.

Productivity Growth (Labor)

India's growth analysis shows that there is a significant growth in labor productivity starting from 1993 to 2003 the rate of increase during this period is larger than any other East Asian countries. Gain in labor productivity may be attained due to efficient use of labor in sectors of high productivity. Another aspect to it is that workers became more productive within their sectors. To explain aggregate improvements in labor productivity we will compare the contribution of labor reallocation across sectors and within-sectoral productivity gains.

The Graph no. 2 shows labor productivity growth in India within sector gains, Reallocation of labor and total change in productivity. There is decline in Contribution of Labor from 2007 to 2008. It reaches 4 per cent in 2012.

Hypothesis

H0: The paper is based on following hypothesis that there is no relationship between Foreign (External) Debt, Investment and Productivity.

The objective is to examine that whether Foreign debt has impact on growth, Investment and productivity, interest rate in India. The Debt is a hot topic for economist to talk about, some say it is Debt is good if it is properly managed and used on productivities like capital formation. If Foreign debt taken by public sector is wasted on unproductive activities like financing current expenditure, then it has an adverse effect on economy as well as productivity. Through the paper data shows that Labor productivity is not good. Though there is increase in FDI but return is not up to the mark for some years. Higher long-term interest rate on debt can rule out private investment, thus dampening potential output growth. The Graph no 3 depicts the trends of foreign debt of Central and State Government of India FY (Financial Year) 1980 -81 to 2017-18.
Source: Data from HBS of RBI

The total debt as a percentage of GDP increase from 45 per cent to 53 per cent in 2017-18. In 2004-2005 it reaches 65.07 per cent of GDP. But the above data is Total debt which combination of both internal as well as external. External debt constitutes only 5 per cent in total public debt in recent year. The major part of Public debt is internal debt. Panizza and Presbitero (2014) found a negative relationship between debt and growth. Rangarajan and Srivastava (2005) indicated that large structural deficit and higher interest payment have worst effect on growth. Though during this power shift between political parties also had some effect. Bal (2014) tested the impact of debt on gross fixed capital formation, interest rate for period 1998-2014 shows debt has positive impact on output and gross fixed capital formation. Studies on impact of debt on output are limited.

6.0 Conclusion

The paper has stated the data which shows how the graph of economic growth can be explained if we consider foreign debt. It appears that resources generated through debt are basically utilized in an unproductive way, as the productivity data (especially labor) indicates a decline or very less labor productivity which signifies that country is lagging in skilled man-power which is a vital component for economic growth. Through the data, we cannot claim economic stability because we still have lower productivity. Though FDI is smooth it depends on political relations with foreign countries and their firms and FDI have shown a positive relationship with Foreign Debt but still, there is long way to go. So at the end after analyzing data it is evident that Foreign debt does not have a direct impact on Investment, Investment, and productivity. It totally depends upon its usage by country. Though debt taken for long-term shows some impact it can be overruled if the debt is used wisely on productive activities like capital formation.

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ANNEXURE:

Table #1
External Debt by creditor category (per cent)

Sl.	Components		External Debt Outstanding			Absolute Variation		Percentage	
No.			at end of	(US$ million)		(US$ million)		Variation	
		March	June	Sept.	Dec.	Dec.	Dec.	Dec.	Dec.
		2014	2014	2014	2014	2014	2014	2014	2014
		PR	PR	PR	QE	over	over	over	over

ISBN: 978-81-950136-2-3

						March 2014 (6-3)	Sept. 2014 (6-5)	March 2014	Sept. 2014
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Multilateral	53,348	53,603	53,204	52,943	-405	-261	-0.8	-0.5
		(12.0)	*(11.8)*	*(11.6)*	*(11.5)*				
2	Bilateral	24,688	24,584	23,229	21,821	-2,867	-1,408	-11.6	-6.1
		(5.5)	*(5.4)*	*(5.1)*	*(4.7)*				
3	IMF	6,149	6,150	5,898	5,764	-385	-134	-6.3	-2.3
		(1.4)	*(1.4)*	*(1.3)*	*(1.2)*				
4	Export Credit	15,534	15,046	14,326	13,552	-1,982	-774	-12.8	5.4
		(3.5)	*(3.3)*	*(3.1)*	*(2.9)*				
5	Commercial								
	Borrowings	149,774	156,218	163,783	170,801	21,027	7,018	14.0	4.3
		(33.5)	*(34.5)*	*(35.8)*	*(37.0)*				
6	NRI Deposits	103,845	106,251	108,724	110,070	6,225	1,346	6.0	1.2
		(23.3)	*(23.4)*	*(23.8)*	*(23.8)*				
7	Rupee Debt	1,468	1,496	1,452	1,418	-50	-34	-3.4	-2.3
		(0.3)	*(0.3)*	*(0.3)*	*(0.3)*				
8	**Long-term Debt (1to7)**	**354,806**	**363,348**	**370,616**	**376,369**	21,563	5,753	6.1	1.6
		(79.5)	*(80.1)*	*(81.0)*	*(81.5)*				
9	**Short-term Debt**	**91,678**	**90,074**	**86,993**	**85,574**	-6,104	-1,419	-6.7	-1.6
		(20.5)	*(19.9)*	*(19.0)*	*(18.5)*				
10	**Total External Debt (8+9)**	**446,484**	**453,422**	**457,609**	**461,943**	15,459	4,334	3.5	0.9
PR: Partially Revised		*QE: Quick Estimates*							
Source: RBI Report									

Table #2
Government and Non-Government External

Sl. No.	Components	at end-March						end-June	end-Sept.	end-Dec.
		2009	2010	2011	2012	2013	2014	2014Q	2014Q	2014 QE
1	2	3	4	5	6	7	8	9	10	11
A	**Government Debt (I+II)**	**55,870**	**67,067**	**78,072**	**81,896**	**81,655**	**83,695**	**87,320**	**90,556**	**90,051**
	As percent of GDP	**5.1**	**4.7**	**4.5**	**4.7**	**4.4**	**4.4**	**4.2**	**4.4**	**4.5**
	As percent of total external Debt	**24.9**	**25.7**	**24.6**	**22.7**	**19.9**	**18.7**	**19.3**	**19.8**	**19.5**
I	External Debt on Account under	**51,816**	55,235	62,295	63,374	61,336	62,204	62,394	60,722	59,184
2	other Govt. External Debt	4,054	11,832	15,777	18,522	20,319	21,491	24,926	29,834	30,867
B	**Non-Government Debt**	**168,628**	**193,868**	**239,819**	**278,870**	**327,809**	**362,789**	**366,102**	**367,053**	**371,892**
	As percent GDP	15.2	13.5	13.7	16.2	17.9	19.3	17.3	17.9	18.7
	As percent of total external Debt	75.1	74.3	75.4	77.3	80.1	81.3	80.7	80.2	80.5
c	**Total External Debt (A+B)**	**224,498**	**260,935**	**317,891**	**360,766**	**409,464**	**446,484**	**453,422**	**457,609**	**461,943**
	As per cent of GDP	**20.3**	**18.2**	**18.2**	**20.9**	**22.3**	**23.7**	**21.5**	**22.3**	**23.2**

Table #3

Foreign Direct Investment

Indian Foreign Direct Investment					
(US$ million)					
Source/ Industry	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18 P**
1	**2**	**3**	**4**	**5**	**6**
Total FDI	16,054	24,748	36,068	36,317	37,366
Country-Wise Inflows					
Mauritius	3,695	5,878	7,452	13,383	13,415
Singapore	4,415	5,137	12,479	6,529	9,273
Netherlands	1,157	2,154	2,330	3,234	2,677
USA	617	1,981	4,124	2,138	1,973
Japan	1,795	2,019	1,818	4,237	1,313
Cayman Islands	25	72	440	49	1,140
Germany	650	942	927	845	1,095
Hong Kong	85	325	344	134	1,044
United Kingdom	111	1,891	842	1,301	716
Switzerland	356	292	195	502	506
UAE	239	327	961	645	408
France	229	347	392	487	403
China	121	505	461	198	350
Italy	185	167	279	364	308

South Korea	189	138	241	466	293
Cyprus	546	737	488	282	290
Canada	11	153	52	32	274
Others	1,626	1,682	2,243	1,490	1,889
Sector-wise Inflows					
Communication Services	1,256	1,075	2,638	5,876	8,809
Manufacturing	6,381	9,613	8,439	11,972	7,066
Retail & Wholesale Trade	1,139	2,551	3,998	2,771	4,478
Financial Services	1,026	3,075	3,547	3,732	4,070
Computer Services	934	2,154	4,319	1,937	3,173
Business services	521	680	3,031	2,684	3,005
Electricity and other energy Generation, Distribution & Transmission	1,284	1,284	1,364	1,722	1,870
Construction	1,276	1,640	4,141	1,564	1,281
Transport	311	482	1,363	891	1,267
Miscellaneous Services	941	586	1,022	1,816	835
Restaurants and Hotels	361	686	889	430	452
Real Estate Activities	201	202	112	105	405
Education, Research & Development	107	131	394	205	347
Mining	24	129	596	141	82
Trading	0	228	0	0	0
Others	293	232	215	470	226

Table #4
OFDI Sector-wise

Period	Cumulative OFDI flows by sector of investing Firms ($ million and Percent)				
	Primary	Manufacturing	Services	Others including diversified	All sector
1980-89		56 (36.9)	82 (54.4)	13 (8.7)	152 (100)
1990-99	13 (0.4)	1713 (51.1)	1,404 (41.9)	221 (6.6)	3,351 (100)
2000-09	12181 (18.6)	25,895 (29.6)	23,133 (35.4)	4,158 (6.4)	65,368 (100)
2010-14	10122 (6.0)	65,845 (39.2)	89,355 (53.2)	2,564 (1.5)	167,886 (100)
1980-2014	22316(9.4)	93,509 (39.5)	113,975 (48.1)	6,957 (2.9)	236,757 (100)
Memorandum items for the period 1980-2014					
Investing firm(no.)	270	2,356	4,407	774	7,793
Per firm outwrd investment ($ million)	83	40	26	9	30

Source: World Bank

Chart #1
External Debt Currency Composition

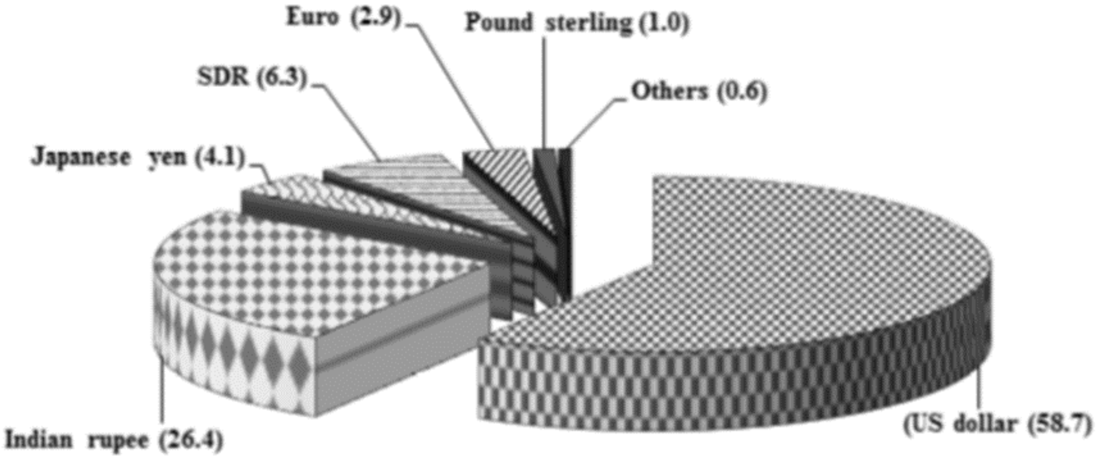
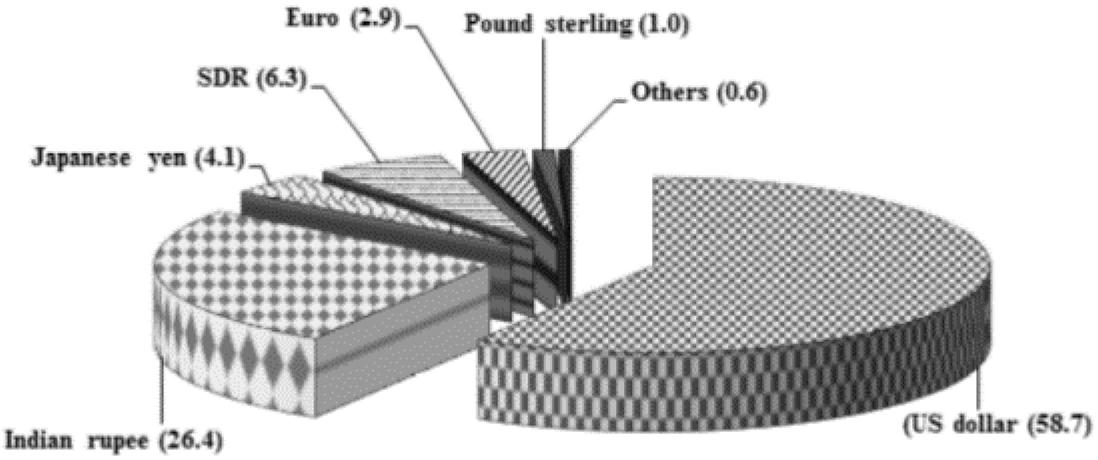
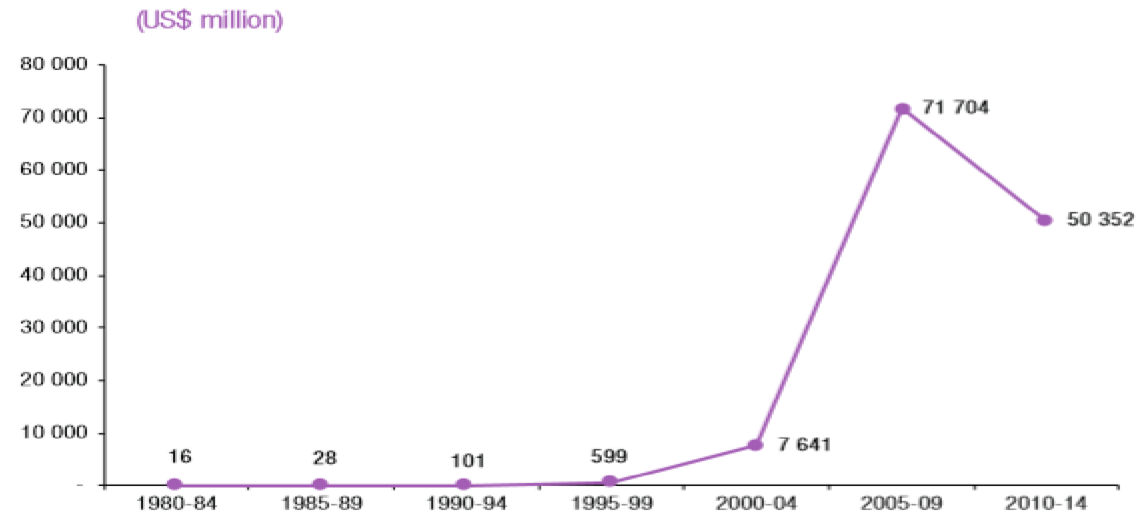


Chart #2
International Development Association debt

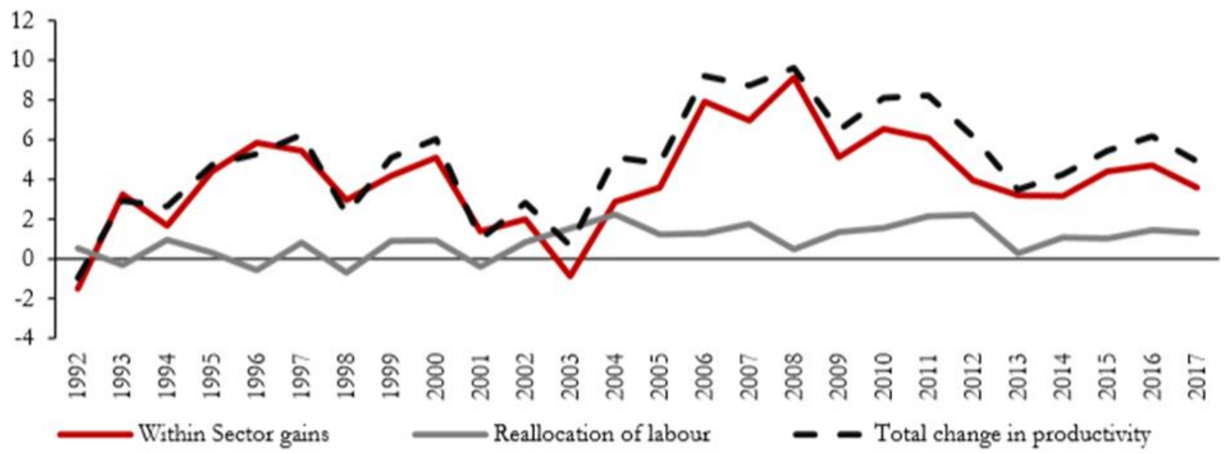


Graph #1
Outward Foreign Direct Investment



Source: Calculation based on UNCTADStat (2015), available at http://unctadstat.unctad.org/.

Graph #2
Labor Productivity growth (India)



Note: The Graph is percent of Population v/s year.
Source: Central statistics office data Employment statistics are from International Labor Organization and available for 1991 to 2017. Since data not available direct graph is taken.

Graph #3
Trend of Foreign Debt of central and State Government Of India