

Route to Sustainable Growth in India-Subsidies Vs Investment

Dr. Shaila Srivastava, Tamoghna Das & Partha Sarathi Banerjee

Abstract: Successive governments have taken multiple measures to alleviate poverty through fiscal largesse. But most of these measures are aimed at reacting to the problem rather than targeting the root cause. With a high fiscal deficit, India cannot continue to afford such schemes. There is need to quantify the usefulness of these subsidies in terms of poverty eradication and their impacts on the national macros, given that still about one-third of the Indian population lives below the poverty line, and we do not have an effective public distribution system.

Statistically it can be seen that sustainable GDP growth has been attained in the past through investments in capital formation while subsidies result in fiscal deficit. Through secondary research, this study is an attempt to find the means of channelizing government spending on subsidies through an alternative route to attain a permanent solution to alleviate poverty. Through the case of India's Food Subsidy bill, this study tries to illustrate how government funds can be channelized towards asset creation which in turn can replace perpetual government spending, thereby containing India's fiscal deficit. To support our argument, we have used the Keynesian model to demonstrate the conversion of the subsidy into limited period investment expenditure for asset creation which will reap perpetual benefits ensuring sustainable growth.

Key words: Subsidy, Gross Fixed Capital Formation, Fiscal deficit, Sustainable growth

I. Introduction

As of January 2015, India recorded a government budget deficit of Rs 5.68 lakh croresⁱ in January of 2015. Out of the enormous amount of government expenditure, Rs 2.46 lakh croresⁱⁱ is the subsidy bill that the government is funding for 2014-15. On the other hand, as illustrated in Fig. 1, India has seen a sharp decline in its Gross Fixed Capital Formation (GFCF), which can be defined as the net increase in physical assets excluding depreciation and land purchases and is indicative of the government's investment for asset creation, as the total subsidy expenditure keeps on rising.

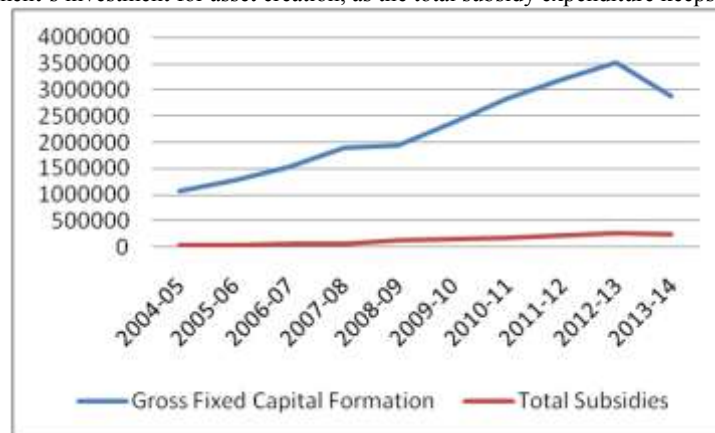


Figure 1: Subsidy vs GFCF (Rs. Cr.)ⁱⁱⁱ

Using regression analysis on historical data, it can be inferred that the major contributor to the GDP of India is the investment in physical assets, measured as GFCF, and not through subsidy expenditure which is a major contributor to our fiscal deficit, it being already at a very high level (Appendix 1). Moreover, it has not been quantified how useful these subsidies are or by how much percentage points poverty will be reduced in the country by such measures.

Through the case of India's Food Subsidy bill, this study tries to illustrate how government funds can be channelized towards asset creation which in turn can replace perpetual government spending, thereby containing India's fiscal deficit. Food subsidy accounts for almost half of the total subsidy bill of the government. The need for food subsidy arises due to the escalated prices of the essential food products making them inaccessible to the people living in poverty. This is primarily due to a shortage of supply or availability. But the major impediment to feeding India's population is not really about increasing food production, but about getting the food to the people. In the absence of an effective public distribution system to plug the leakages, we can't assure that our entire farm produce reaches the consumers. The main reason to the wastage of food grains is lack of refrigerated transport and cold storage facilities for manufacturers and retailers. For example waste is responsible for 50 per cent of the current cost of milk in India. The most perishable food category is fruits and vegetables where annual wastage is estimated to be 18% of the total production^{iv}.

Controlling hunger is not just about providing subsidies but also about controlling food wastage which is beyond the capabilities of individual farmers or consumers. It requires availability of cold storage, cold transport chain, power supply, quality of roads and focused government intervention as well as a need for more pronounced investment in this particular sector.

In this backdrop, through secondary research, our objective for this study is to find an alternate solution to the perpetual subsidy expenditure for a sustainable growth and reduced fiscal deficit.

II. Fiscal Deficit Of India

Currently, the fiscal deficit of India is 4.50% of the country's GDP (FY 2013-14) as illustrated in Fig. 2.

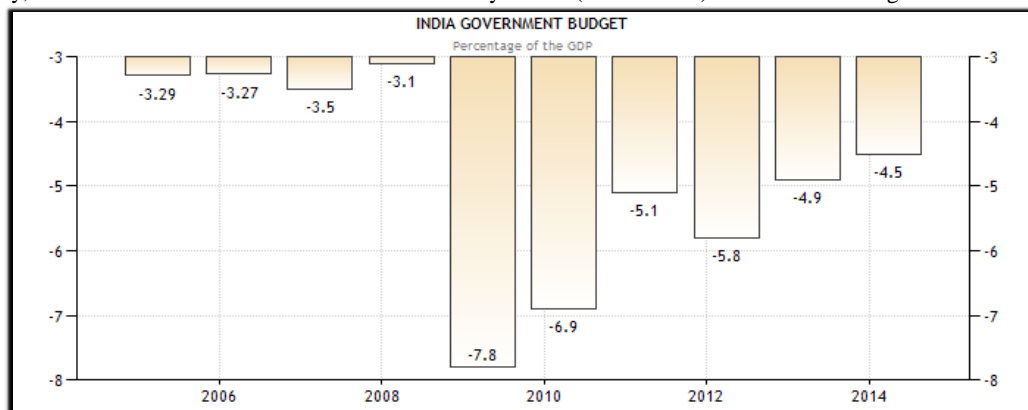


Figure 2: India's Fiscal Deficit as percentage of GDP^v

Implications of fiscal deficit comprise debt trap, inflation, high interest rates, currency depreciation, balance of payment crisis, excessive foreign dependence and stunted future growth.

III. Subsidy

Subsidies now account for a significant part of government's expenditures. They can alter relative prices and budget constraints and thereby affect decisions concerning production, consumption and allocation of resources. Subsidies in areas such as education, health and environment at times merit justification on grounds that their benefits are spread well beyond the immediate recipients, and are shared by the population at large, present and future. Table 1 provides the broad breakup of the various subsidies in India.

Table 1: India's subsidy bill estimate for 2015-16^{vi}

Subsidy head	Rupees Crores
Total subsidy (approx)	2,27,387.56
Food Security (PDS) (subsidy)	1,24,419
Petroleum (subsidy)	30,000
Fertilizer (subsidy)	72,968.56

IV. Food Subsidy

The National Food subsidy bill was put forward by the government of India in 2013 providing food security of an amount of Rs 1,24,419 crores. The primary objective of the bill was to guarantee cheap food grain to nearly 70% of India's 1.2 billion people^{vii}. The broader aim is alleviation of chronic hunger and poverty in India and better realization of prices to farmers of their produce. Fig. 3 shows food subsidy budgeted outlay in Rupee terms and as percentage of GDP.

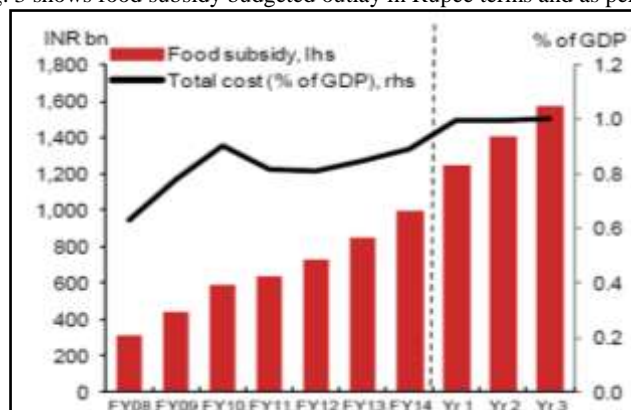


Figure 3: Estimated trajectory of the food subsidy bill^{viii}

V. India's Food Scenario

5.1 A hungry nation

According to the Global Hunger Index 2013, India is the 15th hungriest country out of 78 nations^{ix}. As per UNICEF data, 47% of Indian children are underweight and 46% of those under three years old are too small for their age^x. In the wake of such statistics, the Food Security program becomes highly essential for the benefit of the country's poor population.

5.2 India's farm production

On the other hand, data illustrated in Fig. 4 projects that India has sufficient farm production to feed its entire population. According to the 2013 estimate of the World Economic Forum, India's total population will reach 1.45 billion by 2028. This translates to an annual requirement of around 230 million tons of food per year. India's farm produce increased from 208 million tons in 2005-2006 to 263 million tons in 2013-2014^{xi}. Going by this statistics, India is at a comfortable position in terms of its food security. Thus we need to delve further into the cause behind this hunger statistics.

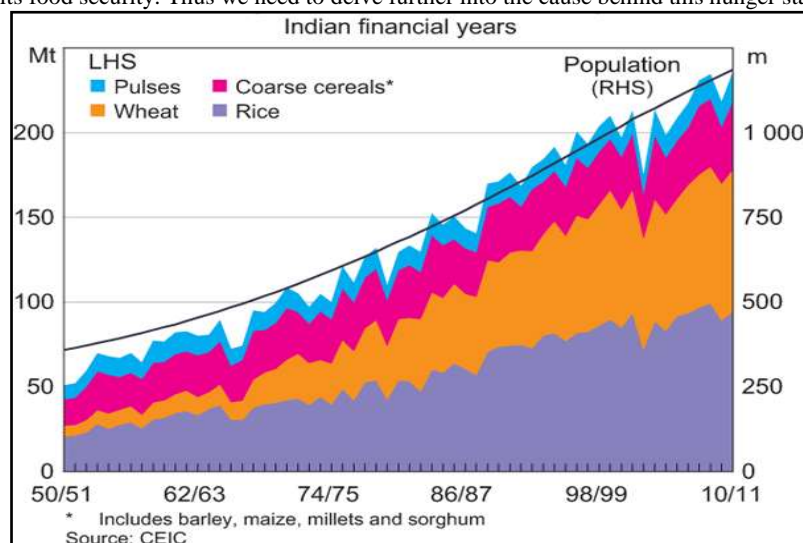


Figure 4: India – Crop Production and Population

1.3 An evident reason for this anomaly

The former Agriculture Minister Sharad Pawar had stated that a high proportion of the food that India produces never reaches consumers. Food worth \$8.3 billion, or nearly 40% of the total value of annual production, was wasted in 2013^{xii}. If the wastage value of rice, wheat, cereals and others are taken into account, it would go up to Rs 44,000 crores a year, mostly due to lack of adequate storage infrastructure^{xiii}. This includes 21 million tonnes of wheat which was almost equal to the total annual wheat production of Australia. Another 45 million tonnes of rice met with the same fate. India is also lacking in the cold storage and public distribution system front which will be required to support this massive subsidy scheme.

VI. Feasibility Of Food Subsidy In India And Leakages

One of the major problems in Indian subsidies is that either the wrong people benefit from it or the deserving people who are specifically targeted are excluded. Although a large chunk is spent towards food subsidy by the government, the most alarming aspect is the manner and purpose of spending it^{xiv}.

An important aspect is that subsidies in India hardly reach their intended target. Only about 40% of the population that were poor according to the official poverty line were correctly identified as poor and eligible to receive subsidies^{xv}. As illustrated in Fig. 5, a major chunk of the food subsidy expenditure will be lost to illegal diversion, leaving the effectiveness of the subsidy in doubt. In fact, it is the main reason for the evolution of the targeted PDS from the very PDS system. Due to faulty government practices, the real needy are forced out of the system. According to Jha and Ramaswami (2012), only about 30% of the poor derive some benefit from the PDS^{xvi}.

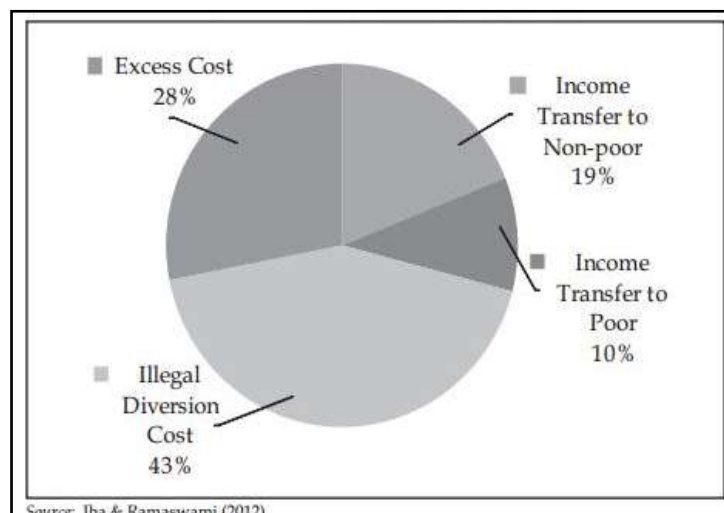


Figure 5: Decomposition of Food Subsidy Expenditures

VII. The Public Distribution System In India: Present Scenario

The Public Distribution System provides a minimum support price to farmers and acts as a food safety net for the rural and urban poor. It provides rice, wheat, edible oils, sugar and kerosene at subsidized prices through specific outlets known as Fair Price Shops. The targeted PDS was introduced to help the real needy instead of the masses. In November 2012, the Indian government announced that a number of subsidy programs such as scholarships, cooking fuel subsidies, pensions and unemployment benefits would be transformed into direct cash transfers in a gradual manner starting in January 2013. This move was an attempt to wipe out the inefficiencies and corruption in the implementation of various welfare schemes. Food grains in the PDS are not yet a part of the proposed switch.

VIII. How India Can Stop Wasting Its Food

About 18% of the country's fruits and vegetables worth Rs 13,300 crores go to waste annually because of the lack of cold storage facilities^{xvii}. Causes of waste include poor harvesting or packaging, not enough refrigerated trucks, limited pre-cooling and cold storage facilities. India needs massive investment for addressing these issues, mostly in creation of cold storage and allied infrastructure. Major challenges in these aspects are power interruptions, real estate costs, lack of technical knowledge and paucity of funds.

IX. Recommendations And Steps By Government

The Saumitra Chaudhuri Committee, constituted by the Planning Commission in 2012, has indicated a requirement of 61.3 million tonnes of cold storage in the country against the present capacity of around 29 million tonnes^{xviii}. Government provided financial assistance in the form of grant-in-aid at the rate of 50% of the total cost of project in most States and at the rate of 75% in difficult areas, including northeastern States, for creation of cold chain infrastructure. The ceiling is, however, at Rs 10 crores^{xix}.

X. Current Food Supply Chain Infrastructure In India

As of 2012, India had approximately 6,300 cold storage facilities, with a capacity of 30.11 million metric tonnes (MT) against an estimated requirement of 61.13 million MT of cold storage to minimize required food wastage. The states Uttar Pradesh, Gujarat, West Bengal and Punjab have around 60% of the total facilities in India. Uttar Pradesh has the highest present capacity of 10.187 million metric tonnes. In 2010, Tamil Nadu needed 7.906 million metric tonnes of capacity, but had only 0.0239 million metric tonnes of actual cold storage capacity. This led to a 97% shortage. India has many cold storage providing companies which comprise 85% of the total market. The remaining 15% consists of the transportation services. In 2010, there were 250 reefer transport operators running around 25,000 vehicles in India of which majority was used for the transportation of milk and the remaining for fruits and vegetables. The National Horticulture Board (NHB) recommends that investments worth Rs. 55074 crores in new cold storage capacity are needed by 2015–16 to keep up with the increasing production of fruits and vegetables^{xx}.

XI. A Prudent Approach

Through the Warehouse Infrastructure Fund 2014-15, the Government of India has allocated Rs 5000 crores to NABARD in the budget for 2014-15, for supporting creation of infrastructure for storage of agricultural commodities^{xxi}. However, considering the NHB recommendations for investments of Rs. 55074 crores, this allocation is a paltry amount.

Allocating the deficit of Rs. 50000 crores will put further stress on the gaping fiscal deficit of India. Hence we explore an alternative method of funding where, if the government puts the subsidy money for long term assets creation which in turn can reduce the subsidy bill in the near future by eradicating food wastage and help in better realization of value for the farmers' produce. This in turn can help in eradicating poverty.

So, what if a part of the Rs 1,15,000 crores subsidy outgo for Food Security Bill is used by the government for investment in cold storage and allied infrastructure, which are the need of the hour in India?

In Economic terms, what if a part of this medium of fiscal expansionary policy (via government expenditure) be replaced by an equivalent amount of investment expenditure in a phased manner, to bring about the same GDP increment?

Current macroeconomic conditions will not make replacing perpetual subsidies with one time investment possible at one go. Hence we should be looking at a gradual approach to implement it in a stepwise manner whereby the subsidies can be reduced in a phased way. The timeframe we are looking at is approximately ten years.

In the following sections we will try to find out whether this is a feasible solution and what will be effect of such a measure on the national macros.

XII. An Insight Into The Requirements Of Cold Storage Infrastructure Setup

The project cost for setting up of multipurpose/multi-commodity cold storage plant of 5000 MT capacity which will be operational on an average of 10 hours/day may be in the range of Rs. 3.5-4 crores, including cost of the land. Approximately 1 acre of land is required for setting up of a multipurpose/multi-commodity cold storage plant. The indicative cost structure of setting up a similar cold storage plant is shown in Table 2.

Table 2: Cost structure of constructing a 5000MT cold storage plant^{xxii}

Sr.No.	Cost Item	(Rs.in lakh)
1	Land and land development	50
2	Building and civil works	85
3	Plant & machinery	148
3	Utilities	23
4	Technical Know how	2
5	Misc. fixed assets	20
6	Pre-operative expenses	17
7	Contingencies	13
8	Margin money	12
	Total	380

CRISIL estimates that the subsidy bill could fall by 20%, or Rs 25,000 crores a year, if the direct benefit transfer scheme is fully implemented^{xxiii}. Assuming that the illegal diversion component of food subsidy expenditure, as seen in Fig. 5, is reduced to 38% from the current 43% after the full fledged roll-out of the implementation of direct subsidy transfer scheme along with other schemes such as targeted public distribution and the corresponding amount is used for construction of cold storage plants as specified above; there will be an amount of Rs. 46,459 crores at the government's disposal. With this amount approximately 12226 cold storage plants of 5000MT capacity each can be built, each costing Rs. 3.8 crores on an average. This will create an additional capacity of 61.13 million MT which is expected to meet the estimated requirement. This in turn will help reduce wastage to the tune of Rs. 44,000 crores worth of fruits, vegetables and grains each year. Even if a part of this wastage can be channelized to be made available through the public distribution system at a much lower price than the economic cost of the Food Corporation of India, it would indirectly imply reduction in the food subsidy bill and the import bill burden on the government of India.

Running and maintenance of these cold storages can be handed over to farmers' co-operatives or gram panchayats who can act as support system for carrying out these activities and directly benefit from them. This can also generate employment for landless farmers who can be delegated these support activities in return for monthly remuneration or incentive based pay.

Rural employment guarantee schemes can be used for the construction of these cold storages. This will provide dual benefit being drawn out of the initiative since the government can fulfill its statutory obligation of providing minimum employment while ensuring meaningful utilization of the workforce for creating necessary assets.

XIII. Extrapolation To Other Infrastructural Requirements

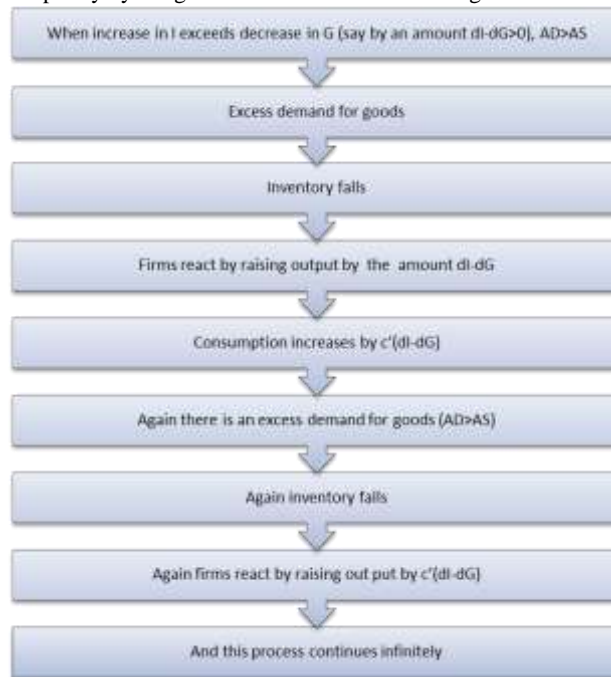
In our estimation we have allocated the whole money that can be saved by plugging leakages from the food subsidy expenditure for cold storage construction. However, only cold storage plants will not suffice and has to be complemented with cold transport chain, power generation and proper roads for accessibility between farm and market. These entire infrastructures support each other and thus have to be developed simultaneously. Hence, it is better to allocate the available resources of each year in suitable proportions for the entire allied infrastructure and thus create the full fledged infrastructure over a span of five to ten years. Once the current infrastructure gap is narrowed, the requirement for the incremental investment will reduce and then investments can be made for scientific methods of food production.

In the following segment, we interpret proposed model economically and mathematically and look at its fiscal and macro-economic effects.

XIV. Economic Interpretation (Keynesian Multiplier Effect)

Aggregate demand for the economy is $C+I+G+(X-M)$ where C denotes the consumption expenditure, I denotes the investment expenditure, G denotes the government spending, $(X-M)$ denotes the net exports and Y denotes the real GDP. Aggregate supply of the economy is Y.

The expansionary fiscal policy by the government is illustrated through the following steps:



XV. Intuitive Explanation For The Multiplier Effect

Mathematically, the increase in real GDP can be shown as follows:

$$dY = (dI-dG) + c'(dI-dG) + c'^2(dI-dG) + c'^3(dI-dG) + \dots + \infty$$

$$dY = (dI-dG)(1 + c' + c'^2 + c'^3 + \dots + \infty)$$

$$\frac{dY}{dI-dG} = \frac{1}{1-c'} > 0$$

Where: C=Consumption Expenditure, C_0 =Autonomous Expenditure, I=Investment Expenditure, $X-M$ =Net Exports (where X is exports and M is imports), c' =Marginal Propensity to consume, s =Marginal Propensity to save

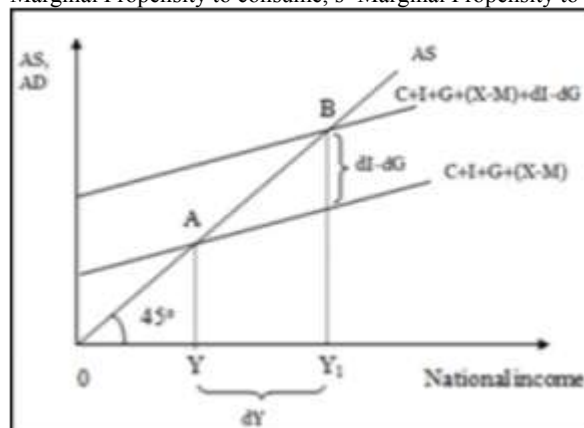


Figure 6: The shift of the Keynesian cross, when $dI > dG$; where AS=Aggregate Demand, AD=Aggregate Demand, dY =Change in real GDP, dI =Change in Investment Expenditure, dG =Change in Government Expenditure

Subsidy is an annual government expenditure which will only keep on increasing every year. Our suggestion is to convert a part of the subsidy into annual investment expenditure in a staggered manner over a period of years, say ten, which will reap perpetual benefits. Through asset creation, we can ensure eradication of poverty and national development via a long term and sustainable GDP growth. This asset creation will encourage more private investment.

XVI. Extrapolation To Other Subsidies

Apart for the food subsidy, fuel subsidies are a significant fiscal burden for India, accounting for 13.7% of India's budget expenditure in FY 2012-13. The Government of India and associated public sector enterprises spent Rs. 142,471 crores subsidizing the retail prices of diesel, Liquefied Petroleum Gas (LPG) and kerosene^{xxiv}.

The fertilizer subsidy bill will be around Rs. 70,000 crores for the fiscal year starting April 1. The government spends nearly Rs36,000 crores a year on subsidizing urea fertilizer prices. The policy of keeping urea prices below cost of production over the past decade has quadrupled fertilizer subsidies^{xxv}.

By implementing policies for promoting renewable energy sources and organic fertilizers these subsidies can be gradually eliminated while creating sustainable resources for the future.

XVII. Fiscal And Macro-Economic Implications

Reducing the various subsidies will enable the country to tame its fiscal deficit. Taking the example of food subsidy alone, approximately 90% of the government expenditure towards intended subsidy does not reach its targeted population. Assuming that the various policy measures are effective, it can be moderately assumed that around 50% of the food subsidy expenditure is saved, over a period of ten years, which amounts to approximately 11% of India's fiscal deficit of 2014-15. This is in sync and will enable the country to reach its fiscal deficit step down targets over the coming years.

As more and more food wastage is prevented, it will imply that these food products are now available in the market. Hence there is an excess supply of food products. Hence less money in the market chases too much of goods. As a result, relative price of these goods fall which implies that inflation will start declining.

Thus we see that there will be a condition when the domestic demand is increasingly met by domestic supply and hence import demand will fall. Once the domestic demand gets saturated, due to consistent steady production by the domestic firms, they will need to find an outside market whose demand will satisfy their supply. Hence export supply for the country will rise.

As the fiscal deficit reduces, there will be a crowding in effect leading to more investment in different sectors of the economy. More investment leads to more employment which again boosts the standard of living thereby surging the per capita GDP if the country. This leads to a rise in the individual consumption levels of the public.

XVIII. Conclusion

Subsidies like the Food Subsidy are an annual incremental cost which the government has to bear. This leads to increasing Fiscal Deficit. Annual subsidy expense might be replaced with one time deployment for asset creation. For example- food subsidy money might be used for building cold storage and allied infrastructure; fuel subsidy might be channelized to popularize the use of solar energy. This leads to reaping perpetual benefits through reduced deficits and increasing national income through asset creation. Scopes of leaks in the system can also be eliminated. Also, rural guaranteed employment schemes can be integrated with asset creation to make them more effective. All these measures, when supported by proper federal and state policies can generate manifold results including improved fiscal health, reduced import, increased export, more scientific farming methods, efficient supply chains, better social infrastructure whose benefits get extended to industries, less wastage leading to less inflation, improved sustainability and more private investment which will generate more employment and increase per capita GDP leading to improved standard of living.

Appendix 1

Table 3: Indian Economic Indicators 2004-14^{xxvi} (Rs. Cr.)

Period	GFCF	Total Subsidies	GDP at Market Price	Fiscal Deficit
2004-05	1064041	45957	3242209	137854.59
2005-06	1279754	47522	3692485	116132.15
2006-07	1531433	57125	4294706	95443.57
2007-08	1900762	70926	4987090	90333.98
2008-09	1931379	129708	5630063	153405.32
2009-10	2363132	141351	6457352	218112.65
2010-11	2841457	173420	7795314	183426.74
2011-12	3200633	217941	8974947	197136.22
2012-13	3521399	257079	10159884	235476.04
2013-14	2877090	246397	11355073	283741.07

Using regression through SPSS on the data in Table 3 at 95% confidence level, the relationships among the economic variables can be analyzed as follows:

Table 4: Regression Analysis Results

Test	Dependent Variable	Independent Variable	Coefficients	R square	Adjusted R square
1	Fiscal_Deficit_Absolute_value	Gross_Fixed_Capital_Formation	-0.076	0.882	0.849
		Total_Subsidies	1.433		
2	Fiscal_Deficit_Absolute_value	Total_Subsidies	0.689	0.797	0.771
3	Fiscal_Deficit_Absolute_value	Gross_Fixed_Capital_Formation	0.058	0.591	0.54
4	GDP_at_Mkt_price	Gross_Fixed_Capital_Formation	3.109	0.868	0.851

Thus, statistically it can be observed from historical data that GDP growth is more dependent on GFCF while subsidies have a significant influence on fiscal deficit, indicating that investment in asset creation is a more viable means for achieving sustainable GDP growth compared to subsidy expenditure.

References

- [1]. ⁱ India Government Budget Value. (2015, January 4). Retrieved on March 3, 2015 from www.tradingeconomics.com/india/government-budget-value
- [2]. ⁱⁱ Total Subsidy Bill at Rs 2.46 Lakh crore, (2014, February 18). Retrieved on March 3, 2015 from www.newindianexpress.com/nation/Total-Subsidy-Bill-at-Rs-2.46-Lakh-crore/2014/02/18/article2062443.ece
- [3]. ⁱⁱⁱ Open Government Data Platform India (2015). Retrieved from <http://data.gov.in>
- [4]. ^{iv} The Food Wastage & Cold Storage Developing Realistic Solutions Infrastructure Relationship In India.(2012). Retrieved from www.emerson.com/SiteCollectionDocuments/India%20Cold%20Storage%20Report%202013/Report_layout_Reduced.pdf.
- [5]. ^v India Government Budget Value. (2015, January 4). Retrieved on March 3, 2015 from www.tradingeconomics.com/india/government-budget-value
- [6]. ^{vi} Ministry of Finance, Government of India. Union Budget 2015-16. Retrieved from indiabudget.nic.in/vol1.asp
- [7]. ^{vii} Fact Sheet: India's Food Security Bill(2013, August 26). Retrieved from <http://blogs.wsj.com/indiarealtime/2013/08/07/fact-sheet-indias-food-security-bill/>
- [8]. ^{viii} Mishra, P., The NFSB: Incremental Financial and Distributional Implications: FY14 to FY16
- [9]. ^{ix} Biswas, A.K., (2014, August 12). India must tackle food waste. Retrieved from agenda.weforum.org/2014/08/india-perishable-food-waste-population-growth/
- [10]. ^x Child Nutrition, (2013). Retrieved from www.unicef.org/india/children_2356.htm
- [11]. ^{xi} Biswas, A.K., (2014, August 12). India must tackle food waste. Retrieved from agenda.weforum.org/2014/08/india-perishable-food-waste-population-growth/
- [12]. ^{xii} Food Security Is Fine, But Where's Storage Space?. (2013, August 24). Retrieved from www.dailypioneer.com/print.php?printFOR=storydetail&story_url_key=food-security-is-fine-but-wheres-storage-space§ion_url_key=todays-newspaper
- [13]. ^{xiii} India wastes Rs 44,000 cr worth food every year. (2013, August 23). Retrieved from www.deccanherald.com/content/352942/india-wastes-rs-44000-cr.html
- [14]. ^{xiv} Tolia, D., (2014). Isproviding Subsidies an economically viable option in India?. MEDC
- [15]. ^{xv} Jha, S., Kotwal, A., & Ramaswami, B., (2013). Safety Nets and Food Programs in Asia: A Comparative Perspective. ADB Economics Working Paper Series (No. 371)
- [16]. ^{xvi} Jha, S., and Ramaswami, B., (2012). The Percolation of Public Expenditures: Food Subsidies and the Poor in India and the Philippines. India Policy Forum, 2011-12, Vol. 8. pp. 95-138
- [17]. ^{xvii} The Food Wastage & Cold Storage Developing Realistic Solutions Infrastructure Relationship In India. (2012). Retrieved from www.emerson.com/SiteCollectionDocuments/India%20Cold%20Storage%20Report%202013/Report_layout_Reduced.pdf on 3 March, 2015
- [18]. ^{xviii} While millions starve, food worth Rs 44,000 cr wasted each year. (2013, August 23). Retrieved from www.tribuneindia.com/2013/20130824/main7.htm
- [19]. ^{xix} While millions starve, food worth Rs 44,000 cr wasted each year. (2013, August 23). Retrieved from www.tribuneindia.com/2013/20130824/main7.htm
- [20]. ^{xx} The Food Wastage & Cold Storage Developing Realistic Solutions Infrastructure Relationship In India. (2012). Retrieved from www.emerson.com/SiteCollectionDocuments/India%20Cold%20Storage%20Report%202013/Report_layout_Reduced.pdf on 3 March, 2015
- [21]. ^{xxi} Warehouse Infrastructure Fund (WIF) 2014-15. Retrieved from https://www.nabard.org/pdf/Website_Warehouse_Infrastructure_Fund_WIF_2014_15.pdf, on 14th March, 2015
- [22]. ^{xxii} Project Profile For Cold Storage Project. Retrieved from www.ncdc.in/downloads/ProjectProfile_coldstrg.doc, on 13 March, 2015

- [23]. ^{xxiii} Government to roll out cash transfer of food subsidies from September: Official. (2015, July 2). Retrieved from http://economictimes.indiatimes.com/articleshow/47912836.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
- [24]. ^{xxiv} Fuel Subsidies in India. (2012, August 14). Retrieved from www.iisd.org/gsi/supporting-country-reform-efforts/fuel-subsidies-india
- [25]. ^{xxv} Dutta, R., &Manoj, K., (2015). Budget may back off fertiliser subsidy reform. (2015, February 25). Retrieved from in.reuters.com/article/2015/02/25/india-fertilizers-subsidy-idINKBN0LT0PK20150225
- [26]. ^{xxvi} Open Government Data Platform India (2015).Retrieved from <http://data.gov.in>