CHAPTER - I

INTRODUCTION
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1.1. There was no concerted effort by the Government of India to initiate any development process under the British regime prior to independence. Only with the initiation of the First Five-year Plan in 1951, development process started with thought out policies and strategies.

The initiation of the process of planned economic development by the Government of India after independence is the most important event in the economic history of India. For over two centuries prior to independence, the Indian economy had suffered from economic stagnation and was caught up in a "vicious circle of poverty". The Government of India under its democratic set up, made conscious and deliberate efforts to break the "vicious circle of poverty" by planning for the economic development of the country. The Planning Commission was set up by the Government of India in March 1951, and made responsible for drawing up five-year plans aimed at attaining self-sustained economic growth within a few decades.

Growth is a function of investment. With the objective of attaining a certain overall growth rate, the planners suggest a certain volume of investment. However, the economy consists of different sectors with variability in production techniques and capital-output ratios. In order to arrive at a certain overall growth rate during a particular plan period, the different sectors must grow at certain different rates conformable with the overall
growth rates as well as certain other socio-economic objectives, and the investments must be allocated to the different sectors accordingly. The domestic investment may be financed through domestic savings plus net capital inflow. If the anticipated investment is higher than the anticipated saving, then there emerges a saving-investment gap. Though this saving-investment gap can be filled up in various ways still under certain situations this gap-filling may have serious implications on inflation and overall growth rate of the economy. While the assumption of price-stability during each plan period is considered, inflationary financing with its resulting sharp rise in prices and cost of living is becoming a serious problem.

1.2 The Statement of the Problem:

It appears from the planning experience that in each five-year plan, the anticipated domestic savings at the pre-plan year rates of taxes, tariffs and administered prices of goods and services of public sector enterprises fall short of the planned investment and consequently there arises a saving-investment gap ex-ante. The anticipated or planned saving is raised to the level of planned investment by basically three means, viz., (a) Additional resource mobilisation in the form of additional taxation and additional revenue from public enterprises, (b) External assistance and (c) Deficit financing. It may be mentioned that the anticipated or planned domestic savings may be different from the realised domestic savings, both being at the pre-plan year rates of taxes, tariffs and pricing of public sector enterprises. Similarly there may arise a difference between planned and realised investments. The anticipated volumes of the three aforementioned gap-filling instruments
may consequently change so as to fill up the gap between the realised savings at the pre-plan year rates of taxes, tariffs and pricing of public sectors enterprises and the realised investment.

The various saving-investment gap filling instruments as mentioned above will have different implications on inflation and growth. In our proposed work we intend to study some of these implications in the context of Indian planning.

1.3. Difference Between usual S-1 Gap concept and our concept on S-1 Gap:

In the usual S-1 gap concept additional resource mobilisation and deficit financing are included to domestic savings. Deficit financing is being considered to be a form of forced savings on the community. Thus only net foreign inflow is considered to be a means of filling the S-1 gap. In our S-1 gap concept, savings relate to the savings at the pre-plan year rates of taxes, tariffs and pricing of of public sector enterprises and any measure to raise such savings to the level of required investment is considered to be a S-1 gap filling measure. Consequently, in our S-1 gap concept there are three instruments of filling this gap, namely, additional resource mobilisation, external assistance and deficit financing.

1.4. Basic Assumption Made:

In each plan, out of the total public sector development outlay, a portion is meant for current expenditure
which does not result in the creation of productive assets and as such it cannot be termed as investment expenditure. Such expenditures should normally be met out of the balance from current revenues. However, in the context of planning experience in India, balance from current revenues, which means revenue receipts (mainly tax yields) at existing rates minus non-plan revenue expenditure of the central and the state governments is usually insufficient to meet the current expenditure. It may be mentioned that sometimes the balance from current revenues turns out to be a negative figure. Since it is not possible to obtain data regarding what portion of additional resources mobilised through the revision of taxes and tariffs and through the revision of administered prices is used to finance current outlay, as such, in our study we make the assumption that additional resources mobilised in the plans are not used to finance current outlay. In other words, we assume that the entire volume of additional resources mobilised in each plan through the revision of taxes and tariffs and by revising the administered prices is used to finance the investment outlay of the plan.

1.5. Review of Empirical Studies: Two-Gap Approach:

The central idea of "two-gap" approach is due to Hollis Chenery and some of his collaborators. Chenery and Strout (1966), Chenery and Adelman (1966), Chenery and Bruno (1962) have done substantial work in this regard. Mckinon (1964), Williamson (1983), Little (1982), Wijnbergen (1986), Christopher Bliss (1989) and a few others have also contributed to this approach. Suggestions for a strategy of more rapid development utilizing substantial amounts of external assistance have been set out in
"two-gap" approach to development. The studies mentioned above suggest that a moderate volume of external resources may make possible a substantial increase in the rate of growth of a developing economy through financing additional investment as well as through providing the additional imports required to sustain a higher level of income. The key elements in this process are the response of the country to the availability of additional resources and its ability to replace the resources over time by changes in the structure of its production and its use of income.

The basic argument of the two-gap model is that most developing countries are faced with either a shortage of domestic savings to match investment opportunities or shortage of foreign exchange to finance needed imports of capital and intermediate goods. However, in reality the developing countries suffer from both the gaps simultaneously and there are other equally important gaps in the technical field and in the economic infrastructure of these countries. Most two-gap models assume that the savings (domestic real resources) and foreign-exchange gaps are unequal in magnitude and that they are mutually independent; that is there is no substitutability between savings and foreign exchange. This assumption is obviously unreal but it greatly facilitates the mathematical analysis. "Two-gap models simply provide a crude methodology for determining the relative need and ability of the different LDC's to use foreign-aid effectively". [Todaro, 1973, p.488]

Chenery et al., postulate a target rate of growth and a capital-output ratio is accepted as a datum. Hence a specific
saving rate is derived as necessary to achieve the targeted growth rate. A savings gap arises when the domestic savings rate is less than the investment required to achieve the target. For example, if the growth rate of national real income is 6 per cent per annum, and the capital-output ratio is 3:1, then the economy must save 18 per cent of the national income to achieve this target. This is calculated in terms of Harrod’s formula:

\[ G = \frac{s}{c} \]

Where \( G \) implies "warrented rate of growth", \( s \) implies capital-output ratio and \( s \) implies the average propensity to save.

If, for example, only 12 per cent of savings can be mobilised domestically, the savings gap is 6 per cent of national income. The economy can achieve the target growth rate by filling the saving gap with foreign assistance. Thus foreign assistance covers the saving gap, and permits the achievement of the target. Again a developing country requires foreign exchange to obtain from abroad goods and services that are complementary to those available at home. A developing nation mainly needs imports of capital and intermediate goods. A fixed relationship is postulated between targetted foreign exchange requirements and net export earnings. If net export earnings fall short of foreign exchange requirements, a foreign exchange gap (or trade gap or import-export gap) appears which can be filled up by foreign aid. This approach has become known as the "two-gap" approach because it operates in two dimensions; while continuing to argue that development is a function of investment it also holds that such investment, which requires domestic savings, is not
sufficient to ensure that development takes place. It must also be possible to obtain from abroad the goods and services that are complementary to those available at home. In most developing countries the structure of economy is so simple that it can produce only a limited range of products when relying solely on domestic sources. In these circumstances an act of saving, by itself, even though it releases resources for development purposes, may not make available the correct kind of resources. In physical terms a country may be unable to produce the cement, steel, or machinery which go into various projects required to raise income in the future, although it may be able to make the necessary savings by cutting down on consumption. Unless these savings can be used to purchase the necessary goods and services from overseas no progress can be made.

Estimates made as a result of this approach start from certain basic relationships which are generally excepted as holding true for all countries. The usages of modern national accounting are designed to express the fact that the amount that can be invested in any country is identical with the amount that is saved; that is to say, only those goods and services which are not consumed can be deployed to increase future income through investment. At the same time, if the resources are to be supplemented from abroad, such a flow will appear in this accounting framework as an excess of imports over exports. It will, in fact, always appear twice, first as the difference between investment and the amount that can be saved within the economy and second as an equal excess of imports of goods and services over exports of goods and services.
Algebraically, the two-gap model can be formulated as follows:

1.5.1. The Savings Gap: Starting with the identity that capital inflows (i.e., difference between imports and exports) add to investible resources out of domestic savings, the saving–investment restriction can be written as:

\[ I \leq F + sY \]

Where \( F, s \) and \( Y \) imply capital inflows, marginal propensity to save and national income respectively. If \( F + sY \) exceeds \( I \) and the economy is at full capacity, a savings gap is said to exist.

1.5.2. The Foreign Exchange Gap: If a developing country's investment has a marginal import share \( m \) and the marginal propensity to import out of a unit of GNP is given by the parameter \( m \), then the foreign exchange gap or constraint can be written as:

\[ \frac{m}{1 + m} \frac{1}{2} Y - E \leq F \]

Where \( E \) is the exogenous level of exports.

Like the basic national income accounting identities, the two gaps are always equal ex-post in any given accounting period. As the projections in regards to the required amount of savings, investment, import and export for attaining a certain growth rate are done independently, the savings gap and the foreign exchange gap are unequal in size in ex-ante.
The foreign aid required to fill the gap at a given point of time is determined by the dominant (larger) gap. An economy is said to be in the savings constraints if the savings gap is larger than the foreign exchange gap. In the reverse case, the country is said to be in a foreign exchange constraint. Foreign aid can help in removing the savings constraints by inflow of capital. Over the long period, the required foreign aid will equal the difference between the increase in investment and the increase in savings generated by rising income. When savings gap disappears, the target growth rate of the economy will be sustained. Again, if the foreign exchange constraint is dominant or binding, the country can start new investment projects by importing capital and intermediate goods and technical assistance over the long period, the required foreign aid will equal the difference between the increase in imports and exports. The foreign exchange gap will disappear when exports rise to a level which covers the required imports for the target growth rate of the economy. Countries can, therefore, be classified according to whether savings or foreign exchange constraint is binding.

The lesson generally drawn from the two-gap theory can be understood from the following model of Christopher Bliss (1989). In his model the following notations are used:

\[ Y = \text{full capacity domestic output} \]
\[ E = \text{demand for exports} \]
\[ A = \text{foreign aid} \]
\[ S = \text{propensity to save} \]
\[ \omega (v) = \text{investment-output ratio for domestic (foreign) goods} \]
\[ g = \text{growth rate} \]
The following assumptions are taken in building up his model:

(1) All the absolute quantities are measured in domestic prices which are assumed to be constant.
(2) It is assumed that imports are required only for investment.
(3) It is assumed that domestic production will be at a full capacity level defined by the availability of plant and equipment.
(4) The availability of labour is not supposed to impose any constraint.

Since investment must not exceed the sum of domestic and foreign savings, we have,

\[(u + v) \frac{g}{o} Y \leq sY + A \quad \cdots \quad (1)\]

\[\Rightarrow g \leq \frac{(s + a) / (u + v)}{o} \quad \cdots \quad (2)\]

\[\text{[} \quad \frac{\hat{A}}{o} \quad = \quad a\text{]}\]

Again, since imports should not exceed exports plus foreign aid:

\[v \frac{g}{o} Y \leq E + A \quad \cdots \quad (3)\]

\[\Rightarrow g \leq \frac{(e + a) / v}{o} \quad \cdots \quad (4)\]

\[\text{[} \quad a = \frac{A}{Y} \quad , \quad e = \frac{E}{Y}\text{]}\]

Bringing together (2) and (4), there are two independent restrictions on the growth rate, one from the consideration of the adequacy of saving and the other from the balance of payments.
Substituting equalities in (2) and (4) we get respectively,

\[ g = \frac{s + a}{u + v} \]

or,

\[ g = \frac{s}{u + v} + \left( \frac{1}{u + v} \right) a \quad \ldots \ldots (5) \]

and,

\[ g = \frac{e + a}{v} \]

or,

\[ g = \frac{e}{v} + \left( \frac{1}{v} \right) a \quad \ldots \ldots (6) \]

For there to exist positive values of 'a' and 'g' at which the economy will grow with saving equal to investment and the balance of payments in equilibrium we must have,

\[ \frac{s}{u + v} > \frac{e}{v} \quad \ldots \ldots (7) \]

For this we require that the saving - investment locus has the larger intercept but the smaller slope (Fig. 1.1)

If the economy grows at the smaller of the two growth rates defined by (5) and (6), it follows that aid is more effective in raising growth rates at low levels, when it relaxes the foreign exchange gap, than at higher levels when it serves to augment domestic saving. This is the lesson generally drawn from the two-gap theory.

Chenery et al., concentrate most of their attention on a saving-investment gap and import-export gap. The principal paper on gap analysis is associated with chenery and Strout (1966) even
though there are a number of others equally useful.

Investment Limited Growth:

On the basis of the assumption that the balance of payments does not become the limiting factor, Chenery and Strout (1966) have derived, from the following description of the economic structure, a process by which self-sustaining growth can be attained by using aid to fill the temporary gap between investment ability and saving ability.

The principal endogenous variables and parameters to be used in the basic model are the following:

\[ V_t = \text{Gross National Product.} \]
\[ I_t = \text{Gross investment} \]
\[ S_t = \text{Gross domestic savings} \]
\[ \bar{S}_t = \text{Potential gross domestic savings} \]
\[ M_t = \text{Imports of goods and services} \]
\[ \bar{M}_t = \text{Required imports of goods and services} \]
\[ E_t = \text{Exports of goods and services} \]
\[ F_t = \text{Net inflow of foreign capital} \]
\[ C_t = \text{Consumption} \]

Parameters:
\[ \bar{r} = \text{Target rate of growth of GNP} \]
\[ r_t = \text{Rate of growth of GNP in year } t \]
\[ \kappa' = \text{Marginal savings rate (} \frac{dS}{dV} \text{)} \]
\[ \lambda_t = \text{Average savings rate in year } t \left( \frac{S}{V_t} \right) \]

\[ \beta = \text{Maximum rate of growth of investment} \]

\[ K = \text{Incremental gross capital-output ratio} \]

\[ \mu' = \text{Marginal import rate (}) \]

\[ \mu_t = \text{Average import rate in year } t \left( \frac{M}{V_t} \right) \]

\[ \phi_t = \text{Ratio of Foreign capital inflow to GNP in year } t \left( \frac{F}{V_t} \right) \]

\[ \varepsilon = \text{Rate of growth of exports.} \]

\[ V_t = S_t + C_t \quad \ldots \ldots (8) \]

\[ S_t = I_t - F_t \quad \ldots \ldots (9) \]

Capacity Limit:

\[ V_t < V_0 + \frac{1}{K} \sum_{t=0}^{t-1} r \frac{I_{t-1}}{V_t} \quad \text{where } k = \frac{V_t - V_0}{V_{t-1}} \]

\[ \ldots \ldots (10) \]

Ability to invest:

\[ I_t < (1 + \beta) I_{t-1} \quad \ldots \ldots (11) \]

Saving Limit

\[ S_t < \bar{S} = S_0 + \lambda'(V_0 - V_0) \ldots (12) \]

Target Growth Rate

\[ V_t < (1 + \bar{r})V_{t-1} \quad \ldots \ldots (13) \]

The capacity limit (10) is based on the Harrad-Domar assumption that a specified amount of investment is needed to increase output. The assumption of a linear capital-output function is due to convenience. The limit on the ability to invest (11) is introduced to reflect the view that the absorptive capacity for additional investment in any period is limited by the
supply of complementary inputs, which can only be increased as a result of the development process. The saving limit (12) is made a function of total GNP so as to incorporate the government's ability to increase total saving by changes in the tax structure and of other policies. The target growth rate (13) reflects the almost universal practice in developing countries of summing up the principal goal of development in a given rate of increase in GNP. Under a number of assumptions made, there is no incentive to build excess capacity or to increase aid by reducing saving. inequalities (10) and (12) become equalities.

Phase I is characterized by a constant growth in investment at the annual rate $\beta$ and by an accelerating growth rate of GNP. From equations (10) and (11) it can be determined that the increment in investment in each period is a constant ratio $(\beta_k)$ to the increment in GNP. Solving the system for the level of capital inflow, gives:

$$F_t = F_0 + (\beta_k - \kappa) (V_t - V_0),$$

Where $F = I - S$. This equation shows that the increment in external capital ($F - F_0$) finances the difference between the increment in investment and the increment in saving. Phase I ends in year $m$ when investment reaches a level adequate to sustain the target rate of growth:

$$I_m = kT V_m \quad \ldots \ldots \quad (14)$$

Substituting this for investment in the equations for phase I (From equation (8) to equation (12)) gives the value of GNP in the terminal year as:

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The time to complete phase I can be determined by solving for \( m \) the following equations:

\[
\frac{I_m}{I_0} = (1 + \beta)^m = \frac{\bar{r}}{r_0} \left( \frac{\beta - \rho_0}{\beta - \rho} \right) \quad \ldots \quad (15)
\]

Where \( r = \frac{1}{kV} \) and \( \bar{r} = r \).

In phase II, inequality (13) becomes effective and replaces inequality (11) as a restriction on the system. In this phase GNP and investment rise at a constant rate with external assistance determined by the difference between \( k \) and \( t \). Solving the system for the rate of growth yields a modified form of the Harrod-Domar equation:

\[
r_t = \frac{\alpha_t + \phi_t}{K} \quad \ldots \quad (17)
\]

Where \( \alpha_t = (\alpha_0 - \lambda') \frac{V_0}{V_t} + \lambda' \) and \( \phi_t = \frac{F_t}{V_t} \).

In order for the rate of capital inflow to decline, the marginal saving rate \( \lambda' \) must exceed the investment rate \( k \) required by the growth target. If this condition is satisfied, the system can be solved for the level of GNP in year \( P \) when the saving rate has risen sufficiently to eliminate the capital inflow:

\[
V_P = \frac{(\lambda' - \lambda_m)}{(\lambda' - k\bar{r})}V_m \quad \ldots \quad (18)
\]

Since \( \lambda' \) reflects the effect of government policies on saving, there is no reason to assume that it will remain constant throughout the period of the transition.
Trade Limited Growth: The trade limit is incorporated into the proceeding analysis in a form quite analogous to the saving-investment limit. Here a minimum import level ($M_t$) is postulated which is required to sustain a given level of GNP at time $t$, which is similar to the capacity requirement of equation (10). This requirement may be stated as:

$$M_t > \bar{M} = \bar{M} + \mu \left( V_t - V_0 \right) \quad \ldots \ldots \quad (19)$$

The effects of government policies to increase exports are summarized by the parameter $\varepsilon$ in the following expression for the export limit:

$$E_t = E_0 \left( 1 + \varepsilon \right)^t \quad \ldots \ldots \quad (20)$$

The combined trade limit is expressed by the requirement that the capital inflow be at least large enough to cover the minimum gap ($F^m_t$) between import requirements and export earnings:

$$F_t > F^m_t = M_t - E_t \quad \ldots \ldots \quad (21)$$

When the capital inflow determined by the saving-investment gap in equation (9) is greater than the minimum trade gap, the two gaps can be equated by having imports in excess of the specified minimum or exports less than the assumed maximum as indicated in equation (20). When the minimum trade gap is larger, it controls the rate of growth of GNP and the inflow of capital. In this case either saving will fall below the saving potential specified by equation (12) or less productive investment will take place. In either case saving limit ceases to be binding.
In phase III inequalities (10), (13) and (21) become equalities, while limits (11) and (12) become redundant. For a given target rate of growth, GNP is determined by equation (13) as in phase II. The capital inflow is determined by (21) and exceeds the capital inflow required by saving gap. In order to reduce the capital inflow either export growth must exceed the trade rate for GNP or the marginal import ratio must be substantially less than the initial average. From equations (19) and (20) the following condition for the elimination of the trade gap is derived with constant structural parameters within a given period \((q - j)\); 

\[
-\frac{E_i}{N_j} (1 + \epsilon)^{q-j} - \frac{\mu'}{\mu_j} (1 + \overline{r})^{q-j} > (1 - \frac{\mu'_j}{\mu_j}) \ldots (22)
\]

The two-gap analysis are based on certain assumptions which are highly unrealistic and have not been supported by empirical evidence. Some of these assumptions are: an increase in domestic savings cannot be utilised as a substitute for required foreign exchange to maintain investment for the target growth rate; the country cannot follow export promotion and import substitution policies. It also assumes structural rigidities and non-substitutability between different types of goods. Given such rigidities, if the foreign exchange gap is larger than the savings gap, the domestic savings potential can be used neither to produce capital goods not exports.

We believe that LDCs with dominant savings constraint do not need foreign aid. A dominant savings gap implies that the country is functioning at a full employment level. It is, therefore, not utilising its foreign exchange to import capital goods for investment purposes because the domestic resources are
fully employed. As there is full employment, investment in capital goods through imports would lead to inflation as the economy losses absorptive capacity beyond full employment level. Commenting on the two-gap models, Christopher Bliss (1989) says, "If today they seem somewhat dated, the reasons are partly a change in the style of economic theory, with greater emphasis today on precise general equilibrium models, and partly institutional changes. On the one hand, longer experience of development have made some of the rigidities which were taken for granted by early writers seem less plausible. On the other hand, with the growing access of many LDCs to highly flexible and fluid private capital markets, the treatment of aid as quantity rationed official aid come to see less propelling".

1.6. Objectives of the Study:

The primary objective of the proposed study is to undertake an empirical analysis of the influence of financing investment expenditures by three means, viz: (a) Additional resource mobilisation (b) External assistance and (c) Deficit financing on inflation and growth in the context of Indian Planning. These factors are taken as the basic gap-filling instruments between saving and investment where saving relates to the revenue realised through taxation at pre-plan rates of taxes and tariffs and surplus from public sector enterprises at pre-plan administered prices net of current outlay. We also intend to determine a numerical estimate for the influence of each of these gap-filling instruments an inflation and growth separately besides
examining their combined effect. Another primary objective of our study is to test empirically the impact of saving-investment gap on sectoral output and income in a consistency framework with the help of input-output model. Our study also attempts to:

(i) examine empirically the degree and nature of correlation between inflation and growth in the context of planning in India.

(ii) study the interrelationship between general price-level and sectional prices.

(iii) test the significance of the difference between the public sector aggregate plan finances of various five-year plans and their sources of finance.

1.7. Rationale of the Study:

The primary objective of Indian planning is growth with stability and the former is a function of investment. Every method of financing investment expenditure has its own limitations so far as inflation and growth are concerned. However, one method may prove to be more successful in comparison to the others in augmenting growth rate keeping inflation within the safe limit which is one of the basic objectives of national planning. As mentioned earlier, there are basically three methods of financing investment expenditures which cannot be met by domestic savings at the pre-plan year rates of taxes and tariff and contribution of public sector enterprises, namely, (a) Additional resource mobilisation, (b) External assistance, and (c) Deficit financing.
Each method has its own impact on inflation and growth on Indian economy. We discuss below these impacts separately.

**Additional Resource Mobilisation: Impact on Inflation and Growth**

Additional resource mobilisation manifests itself in the form of additional taxes and additional revenue from public enterprises. Additional taxation is the major component of additional resource mobilisation and it, as a source of financing planned development outlay, has gained more and more importance continuously. This is a major source of stepping up domestic savings at the existing rates of taxes to the level of desired investment. The other source of additional resource mobilisation is the additional revenue of the public sector enterprises which they earn by raising their administered prices and this too contributes towards stepping up domestic savings.

Although taxation is assumed to be a major source of stepping up the saving ratio by non-inflationary means yet this too beyond a certain limit will have an adverse effect on the willingness to work and the expenditure on consumption will be affected adversely and this in turn will adversely affect the consumption goods sector. Again when commodity taxes like union excise duties and sales tax are increased they add to the prices in the immediate short-run. Along with this rise in prices, if
money incomes are also raised, there will not be any fall in either money or real demand, and as a result the demand-pull inflation might be reinforced by tax-push inflation. However, if money income remains constant or falls, it may reduce real demand and bring partial or sectoral recession. Indirect taxation usually leads to increase in prices whenever they are levied on intermediate goods. The impact of additional taxation in the form of indirect taxes is to push up the prices through the process of shifting. We agree with the observations made by Thavaraj [1974] in the following lines: "Though increases in price level due to shifting of taxes is not reckoned as inflation, they do cut into the real income or consumption of those on whom they fall. In other words, in so far as it is reflected in higher prices, indirect taxes have more or less, the same effect on consumers as inflationary financing though the course and effects of the latter are more unpredictable."[P.1133 Moreover, high tax rates in the form of additional taxation affect private savings and investment. The savings potential of the household sector is eroded with the hikes in tax rates. Companies too fail to generate sufficient internal surpluses for investment on account of excessive rates of corporate tax.

Although, in case of direct taxation such as income tax, an increase in rates would be anti-inflationary because it reduces the disposable income of the individuals on whom it falls, yet its price dampening effect is much less than the price escalating effect of indirect taxation because of much smaller magnitude of the former in comparison to the later.
The government raises additional revenue from public enterprises which constitutes a part of additional resource mobilisation. The government finds it easy to raise the administered prices of goods and services produced and sold by the public sector enterprises such as petrol, steel, coal, etc. which have direct impact on price level.

Coming to the growth impact of additional resource mobilisation it is expected that additional resources mobilised through additional taxation and raising of administered prices divert funds from the private to the public sector and thereby reduces the amount available for private consumption and investment. The effect of such diversion on investment and output depends on the employment of the funds of the government which could be either on current goods and services or investment. To the extent that public consumption goes up at the expense of private savings and investment it will have adverse effect on total output and therefore on growth. On the other hand, the diversion of funds from private consumption to public investment would have a beneficial impact on total output and therefore on growth.
External Assistance: Impact on Inflation and Growth

When domestic investment is financed with external assistance then there is a possibility of rising the prices of wage goods because of time lag between investment and emergence of output, resulting from investment. There will be no impact on prices of wage goods when import covers both investment goods and wage goods.

As regards to the effect of external assistance on growth there are two views. Economists like Griffin and Enos paint a very dismal account of growth effect of foreign aid. Griffin and Enos (1970) by regressing the average growth rates of 12 Latin American countries on the ratio of aid to GNP for the period 1957-64 have found that the coefficient of regression was negative. On the contrary, Chenery and Bruno (1962); Chenery (1963); Adelman and Chenery (1966); McKinnon (1964), Chenery and Strout (1966) etc. in their empirical studies have found that a moderate volume of external resources may make possible a substantial increase in the rate of growth of a developing economy through financing additional investment as well as through providing the additional imports required to sustain a higher level of income. Chenery and Adelman (1966) cite examples of Greece, Taiwan, Israel, and Philippines. These countries have received substantial amount of assistance and have had an accelerated growth of national income, and have steadily reduced their dependence on external assistance for continued growth.
Deficit Financing: Impact on Inflation and Growth:

The targets of production and employment in the plans are fixed primarily with reference to what is considered as the desirable rate of growth for the economy. When the gap in resources cannot be met by all other means including external assistance then the government resorts to deficit financing. "Deficit financing as understood in India, refers to the financing of the plan outlay through additional money created by the Reserve Bank of India by extending loans to the government to fill the gap between the fiscal outlay and total receipts, which include domestic savings, market borrowings, external loans and surplus of the public enterprises." [Mankar, 1990, P. 246]

Deficit financing increases the total volume of money supply in the country and, therefore, raises the aggregate demand for goods and services. In the absence of a corresponding increase in goods and services, deficit financing leads to rise in price level. Although deficit financing has been adopted in India for the purpose of development and that increase in production will eventually check rise in prices yet it is often held responsible for the price rise in the country. There is no doubt that deficit financing is inevitable for rapid capital formation and provision of infrastructural facilities. However, it is fraught with the danger of generating inflationary pressure in the economy. Mild inflation is conducive to economic development as it creates forced savings on one hand and stimulates private investment on the other. This is because the profitability of investment rises. But deficit financing on a large scale leads to runaway inflation, which instead of leading to economic growth may hamper it.
In developing economies deficit financing is resorted to help increased mobilisation of saving and building of real capital. At the early stage of industrialization of developing countries investment demands are in excess of saving, and the means at the disposal of the government to mobilise all the potential savings of the community are inadequate and unsatisfactory. Deficit financing is inevitable as a source of finance of investment expenditures. It is argued that deficit financing for capital formation necessarily leads to inflation. However, inflation may occur because of the presence of the various other factors, like non-availability of the technically skilled labour, lack of mobility of labour and fixed capital, etc. If deficit financing aims at building up costly and prestigious capital equipments and economic-overheads there may be all the more inflation. The larger investment in such capital schemes would increase the money incomes of a larger sections of the population. But with it, it is essential to increase the supply of consumption goods simultaneously to offset the effect of large purchasing power. If it is not, inflationary forces would certainly raise their ugly hand. However, a conscientious government ought not to resort to deficit financing beyond the point at which it turns into bigger inflationary.

Deficit financing is regarded as an important tool to activise a backward and developing economy as the increase in the volume of money brought about by deficit financing results in higher demand for labour and other resources. If the resources collected by resorting to deficit financing are judiciously invested in the building up of capital then it will increase the national output without having much inflationary impact.
However, in the context of Indian planning deficit financing has often been held responsible for the price rise in the country.

The above account underlines the need and rationale of undertaking an empirical study so as to bring to light some implications of financing investment expenditures on inflation and growth which cannot be met with the domestic savings at the existing (pre-plan) rates of taxes and tariffs as well as the pricing of public sector enterprises.

1.8. Period of Study:

At the time of taking this research work our country just completed seven Five-year plans including the three Annual Plans 1966-69 and the Annual plan 1979-80. And our work covers the entire period of this planning era i.e. from April 1951 to March 1990.

1.9. Scope of the Study:

It is hoped that this study would arouse interest amongst the academicians and researchers. It is really interesting to investigate the contribution of the different sources of financing investment expenditures in unison to inflation and growth and also their individual contributions. If one source leads to more growth and not more inflation in comparison to the other sources then attempts may be made to mobilise more resources through that source. It is also possible to find out an optimal pattern of financing plan investment leading to economic growth which is consistent with a certain inflation rate. For such a work the framework of the model may be an input-output model (with sectoral
disaggregation) on the basis of the national input-output table. It can then be converted into an optimization model by using programming technique. An attempt may be made to analyse the implication of the problem through a sub-model for a particular state subject to the availability of the requisite data.

1.10. Sources of Information:

Because of the nature of the problem the work is entirely based on secondary data. The requisite data are obtained from the following sources:

(i) Planning Commission, Govt. of India (G.O.I), Five-Year Plan Documents-Various issues.


(iii) Basic Statistics Relating to Indian Economy, Centre for Monitoring Indian Economy, Bombay- various issues.


1.11. Methodology Used:

The descriptions of the various methodologies used are given in relevant places. Inflation is measured by the increase in wholesale price index (WPI). The reason for selecting WPI as an indicator of inflation is discussed in details at proper places. However, we have also calculated the consumer price indices and
displayed along with the wholesale price indices in a table incorporated in Chapter III. Annual compound rate of increase in inflation (GNP/GDP) during a particular period is computed from the exponential function of the form:

\[ Y = AB^t \]

Where \( Y \) = price index (or GNP/GDP) of the terminal year of the period under consideration, \( A \) = WPI(or GNP/GDP) of the initial year of the period under consideration, \( B = 1 + i \) where \( i \) being the rate of increase per unit, \( t \) = number of years between the initial year and the terminal year of the period under consideration. The annual compound rate of increase (\( r \)) in WPI(or GNP/GDP) is given by \( r = (B-1) \times 100 \).

The inflation and growth implications of (a) Additional Resource Mobilisation, (b) External Assistance and (c) Deficit Financing as means of filling S-I gap for financing investment expenditures are studied with the help of econometric tools like simple as well as multiple regression models. Again for a consistency exercise relating to S-I gap on sectoral output and income we make use of input-output model.

1.12. Chapterization Scheme: Our study is divided into eight chapters including the present one.

Chapter II is devoted to the theoretical implications of S-I gap in macroeconomic framework. Since the concept of S-I gap pertains to macroeconomics, so in this chapter various views on the concept of S-I gap have been discussed theoretically.

In chapter III, planning experience over the period under
study is discussed in greater details giving emphasis on the two main aspects of our study, viz. inflation and growth.

Chapter IV analyses the financing pattern of India's Five-Year Plans in the context of public sector.

In chapter V, the implications of financing investment expenditures with the three above mentioned instruments on inflation are studied empirically with the help of regression models.

In a similar way as in chapter V, in chapter VI regression models are used and with the help of these models the implications of filling S-I gap by the aforementioned instruments on growth is studied empirically.

In chapter VII, the implications of S-I gap on sectoral output and income are empirically studied in a consistency framework with the help of input-output model.

Chapter VIII incorporates the summary of findings, conclusions and highlights the suggestions based on our findings.

REFERENCES


