

Chapter 2

A BRIEF SURVEY OF SOME BASIC THEORIES OF GROWTH AND DEVELOPMENT

The challenges facing developing countries are basically to increase the prosperity of the people, effect an improvement in the standards of living, reduce unemployment, and to alleviate poverty in the country. The basic necessities of life, such as food, clothing, shelter, elementary education, and health services have to be provided.

The dimensions and parameters of a strategy of development are determined by the challenges confronting the nation and the objectives that are to be achieved. Broadly, the backward and traditional mould of the economy has to be transformed into a modern and forward-looking society, and the institutional framework, economic, social and political, has to be strengthened. The economy must move into a higher orbit of growth rate and transcend the stage of self-sustaining growth. The strident advances in science and technology- which are engines of growth- have to be harnessed for modernization of industry, agriculture, and defence. Capital has to be productively used and installed capacity fully utilized to increase production. Efficient implementation of plan projects needs to be ensured through effective supervision, and public expenditure rendered more fructuous. This would also assist in the reduction of capital output ratio.

The N I Es of South-East Asia, particularly South Korea, Singapore, Hong Kong, and Taiwan - the Asian Tigers - as also Thailand and Malaysia, have demonstrated that developing economies have enormous potential for growth. With the induction of foreign investment capital and modern technology, and with liberalized policies in a competitive environment and stimulated exports, economies can be dynamized, and a sustained rate of growth between 10 to 12 per cent per annum in real terms achieved, leading to a diminution in the gap

between the developed and developing countries. 'India has the industrial and human resource base to match the growth performance of the successful East Asian countries. Tapping this potential requires both stabilization and fundamental reforms that, among other things, redefine the role of the state. India needs sustained faster growth at or above the 5.3 per cent per annum rate of 1980s' (World Bank 1991).¹

The achievement of a higher growth rate in India in the eighties is creditable, but this was achieved mainly through the boosting of the growth rate of the services sector; besides it has been accompanied by a decline in the balance of payments position and foreign exchange reserves, and a rise in international borrowings and external indebtedness; besides, the level of investment has been sustained through a cumulative rate of inflation of about seven to eight per cent. Inflation is the most insidious and regressive form of taxation and adversely affects the weakest sections of society. We shall address these and other problems in the course of evolving the new strategy.

The new strategy must impart momentum to the process of growth; it must contribute to an increase in the incremental savings ratio and maximization of output through improved project implementation and utilization of installed capacity; exploit the ever-widening impulses that are generated in the economy as a consequence of the modified policy framework, patterns of investment and production, and induction of science and technology; and achieve accelerated growth which alone can provide the wherewithal for improved welfare and better standards of living for the people. Fiscal policy in this context has an important role to play.

Arthur Lewis, Nurkse, Schumpeter, Leibenstein and various other leading growth economists have given seminal propositions regarding necessary elements of growth, massive investment by various entrepreneurs creating recurring waves of industrial progress necessary for breaking the underdevelopment equilibrium,

the critical minimum effort necessary, and other factors for stimulating growth. Some of the principal theories and propositions may now be discussed. We begin with the well-known Harrod-Domar Model.

2.1. Harrod-Domar Growth Model

The formulation of developmental plans postulates certain basic decisions about the dimensions and parameters of growth. The growth rate is usually determined on the basis of the objectives of planned economic development and the feasibility of achieving the requisite rate of growth. The planners have to formulate estimates about the quantum of investment for achieving the growth rate, taking into account, inter alia, the national income, the savings rate in the economy and the capital output ratio. The growth model, which had broadly constituted the basis of long-term planning in India, is the Harrod-Domar model. The term capital-output ratio may be amplified prior to discussing the model.

As George Rosen² states 'the capital-output ratio may be defined as the relationship of investment in a given economy or industry for a given time period to the output of that economy or industry for a similar time period.' It is estimated as to how much capital investment would be required to obtain a particular amount of output. Generally the reference is to incremental capital output ratio (I C O R), which implies as to how much additional or incremental net output is obtained out of investment of a given amount of capital during a particular period in which capital formation takes place.

According to Harrod and Domar, the most crucial determinants of growth are capital accumulation and investment. Investment has a dual role: It creates income and employment on the one hand, and on the other, it augments the capital stock in the community and increases its productive capacity. Thus they emphasize upon both aspects of the investment process: there is income generation which represents the demand side and productive capacity creation or accretion to capital stock, which represents the supply side.

Harrod and Domar emphasize that if the economy is to move along the equilibrium path, real income and output must grow at a rate proportional to that at which the productive capacity in the economy in the form of capital stock is increasing. If adequate income is not created and effective demand does not exist at a sufficiently high level, there would be excess or idle capacity. As a consequence, investment outlays, income and employment will be reduced. The equilibrium path of continuous growth of the economy would not be maintained. As Prof. Alak Ghosh ³states 'the maintenance of a full employment equilibrium level of income, or even a smooth uninterrupted growth in real national income, requires that the volume of spending resulting from effective demand, generated by investment, must be sufficient to absorb the increased output, resulting from additional productive capacity, made possible by investment'.

In order to maintain full employment, it is essential that the volume of investment must steadily increase, so that it enables continuous matching between the growth in real national income and the expansion of the productive capacity of the stock of capital. This means that in a growing economy, new capital formation must continuously take place. The conclusions of the models of Harrod and Domar are the same. Hence we shall use only Harrod's model as below:

In the Harrod model, let

I = Investment

K = capital

Y = Income

v = Incremental Capital-Output Ratio

s = Marginal Propensity to Save, and

ΔK or ΔY = Change in K or Y

Assuming no depreciation

$$\begin{aligned} I &= \Delta K \\ &= \Delta K / \Delta Y \cdot \Delta Y \\ &= v \cdot \Delta Y \end{aligned}$$

Again by assumption

$$S = s \cdot Y$$

For equilibrium national income

$$I = S \text{ (in the intended sense)}$$

$$\text{or } v \cdot \Delta Y = s \cdot Y$$

$$\text{or } \Delta Y / Y = s / v$$

This is Harrod's equilibrium or warranted rate of growth and is generally referred to as g .

This is the simple Harrodian model. The detailed version shows the discrepancies between warranted rate of growth, natural rate of growth, and actual rate of growth. But the emphasis is on making the actual rate of growth equal to the warranted rate of growth.

We have seen from Harrod-Domar growth model that g or the growth rate is equal to s/v that is the savings rate divided by the incremental capital output ratio (I C O R). It follows that growth can be stimulated in the economy either by increasing savings rate or by reducing I C O R, or by effecting a combination of the two. Both macro-economic and micro-economic measures are necessary to effectuate an increase in the growth rate and we shall now deal with them.

(a) *Savings in India: Fiscal Stimulants*

In India, success achieved in the Sixth and Seventh Plans is partly attributable

to sizeable additional resource mobilization effected, often in excess of targets during the plan periods. A structural change in the economy has taken place, in that the ratio of savings to G D P increased from about 12.7 per cent in 1964-5 to about 21.5 per cent in 1988-89 and 23 per cent in 1991-92 besides the potential for further increase in the savings rate to about 25 per cent by the year 2000. The importance of the high savings rate in the economy lies in its having enabled the country to achieve increased capital formation of about 24.5 per cent in 1988-89 and 25.7 per cent in 1990-91. Almost 90 per cent of this investment has been financed from internal resources, reflecting the degree of self-reliance achieved. But according to recent estimates, the gross domestic savings during 1993-94 amounted to 21.4 per cent of G D P. This constitutes a steep decline and needs to be addressed.

The macro-economic parameters of the Eighth Plan (1992-97) as also the Seventh Plan (1985-90) are indicated in Table 2.1. Certain figures are given below:

	G D P Growth (Percentage increase per annum)	I C O R (Incremental Capital Output Ratio)	Average Rate of Domestic Savings.	Current Account Deficit (B O P)	Average Rate of Investment
(As percentage of G D P at Market Prices)					
Eighth Plan	5.6	4.1	21.6	1.6	23.2
Seventh Plan	5.8	3.9	20.3	2.4	22.7

The Eighth Plan provided for G D P increase on an average between 1992 and 1997 of 5.6 per cent per year, investment as percentage of G D P at 23.2 per cent and incremental capital output ratio (ICOR) at 4.1. Domestic Savings as percentage of G D P were taken at 21.6 per cent.

Compared to the Seventh Plan, the rate of growth has been taken conservatively at 5.6 per cent as against 5.8 per cent. Investment is somewhat higher, while ICOR has marginally deteriorated from 3.9 to 4.1.

The outward orientation of the economy is reflected in an increase in exports

from 8.1 per cent per annum in the Seventh Plan to 13.6 per cent per annum in the Eighth Plan. Thanks to devaluation of the rupee, and significant changes in industrial and trade policies, the balance of payment position and the performance of the external sector, including foreign exchange reserves, should show marked improvement over the Seventh Plan period.

The savings rate in 1994-95 has improved to 24.4 per cent from 21.4 per cent in 1993-94, which is encouraging.

If savings can be increased to about 26 per cent and the inflow of foreign equity capital and aid can be maintained at the level of 2 per cent of G D P in the nineties, it would provide the foundation for the achievement of a higher growth rate during the second half of the nineties. This postulates that the I C O R is maintained and reduced to less than 4.0 during the course of the Eighth and Ninth Plan periods (1990-2000).

An analysis of the composition of gross savings shows that the bulk of the increase in savings was accounted for by the household sector. The factors that have contributed to the remarkable upsurge in private household savings are:

- High interest rates on medium and long-term savings instruments.
- Provision for deduction from total income of savings in specified instruments under the income tax law.
- Widespread expansion and penetration of the banking system deep into the rural areas, as a consequence of nationalization of banking in 1969.
- Sizeable mobilization of savings by institutions like the Unit Trust and Mutual Funds, Life Insurance Corporation and others.
- Increase in the quantum of funds raised by means of the capital market through debentures and equities.

Public savings have fallen short of targets. The erosion in public savings is attributable to the sizeable growth in total expenditure. Additional revenue mobilization during the Sixth and Seventh Plan periods has been in excess of targets. Yet there has been an excess of current expenditure over current income, resulting in a negative balance on current revenue account. Actually, it should be possible to increase the rate of public sector savings by a qualitative increase in the operational efficiency of public enterprises and a quantum jump in the resources generated by them. According to the *Long-term Fiscal Policy*⁴ document, it was necessary to improve the built-in revenue-raising capacity of the tax system so that the automatic growth in revenue improves. Another priority is to reduce the non-plan expenditure. Both these exercises are vital if the balance from current revenues (B C R) is to be increased to a positive figure.

The potentiality for increasing private savings is considerable. The Chelliah Committee (1986-87), however, surprisingly made negative suggestions with regard to penalizing savings which mature and may be used for personal consumption. Savings are partly intended for personal consumption at a future date and if withdrawals for personal use are taxable, and incentives for savings are weakened, the total volume of small savings would decline. It is imperative, therefore, that the existing savings schemes and tax incentives in respect of savings are not tampered with; actually, such incentive schemes should be extended to stimulate savings. Savings schemes, however, should be properly framed so that they are productive and do not involve excessive loss of revenue. In this context, hundred per cent tax exemption under section 80 C C A deposit scheme was causing considerable loss of revenue to the government without commensurate benefit. Such exemption has been withdrawn and tax rates lowered.

Table 2.1
Macro-Economic Parameters of the Eighth Plan (1992-97)

Rate Ratios	Seventh Plan (1985-90)	Eighth Plan (1992-97)
1. Rate of growth in G D P (% per annum)	5.8	5.6
2. Domestic Saving (% of G D P)	20.3	21.6
3. Marginal Rate of Saving	22.1	23.0
4. Investment (% of G D P)	22.7	23.2
5. Current Account Deficit (% of G D P)	2.4	1.6
6. I C O R (Incremental Capital Output Ratio)	3.9	4.1
7. Growth Rate in Export of Goods (% per annum)	8.1	13.6
8. Import of Goods (%per annum)	10.0	8.4

Source : Eighth Five-Year Plan (1992-97), Vol. 1.

(b) *Inter-Sectoral Mismatch between Private Savings and Public Sector Demand for Investment*

While stepping up the domestic savings rate from 10 per cent of G D P in the early fifties to above 21 per cent in 1985-86 has been a commendable performance, savings have stagnated in the region of 21 to 23 per cent. Actually, the bulk of the increase in savings has taken place in the household sector. (Table 2.4) This has resulted in an inter-sectoral mismatch between the increase in savings and the increase in demand for investment from the public sector, whose savings have not increased proportionately. The public sector has been drawing increasingly on borrowing from households. Consequently, a vicious circle of heavy borrowings, escalating interest burden, and further borrowings to meet the interest and other liabilities, largely on account of public sector consumption has manifested itself.

The fundamental question of inter-sectoral mismatch of savings and demand for investment thus reinforces our central point that evolution of a new strategy of growth for the nineties is imperative to

- (i) step up the rate of growth in the economy;
- (ii) reduce the incremental capital-output ratio;
- (iii) resolve the problem of inter-sectoral mismatch between private savings and demand for investment, applying some restraint upon the ever-increasing public sector borrowings and the consequent interest burden, and reducing budgetary imbalances;
- (iv) effect a dimensional change in the role of the public and private sectors in the development of the economy; and
- (v) reduce the role of government agencies in centralized decision-making, and allow market forces to play their natural role - subject to such checks as necessary - in the allocation of resources and the pattern of investment. Actually, the trend towards placing greater emphasis on market incentives and substituting indirect policy instruments for direct physical controls is gathering momentum.

The new strategy for growth needs to concentrate on the following aspects for increasing the ratio of savings to G D P in the economy:

1. There must be an increase in user charges. Betterment levies, charges for irrigation facilities and various inputs supplied to the prosperous farmer should be adequately raised. User charges yield double efficiency gains, firstly, the supply of public services and goods is allocated efficiently; and secondly, the need for distortion in taxes is avoided by their use. Land revenue should be increased on larger holdings and be made progressive. Subsidies tend to become indiscriminate; actually they should be targeted to groups who really need them.
2. Government's current expenditure needs to be drastically reduced; it is vital that a high-powered official committee examines ministerial expenditure carefully and takes remedial action.
3. Increase in operational efficiency and generation of surpluses by public enterprises is vital to a resurgence in growth of public savings.
4. If agricultural incomes cannot be taxed through income tax and wealth tax, indirect taxes on both agricultural inputs and the commodities consumed in the rural areas should be raised. Banking in rural areas should be extended and savings mobilized.
5. The tax base should be widened and a larger number of self-employed persons who do not pay taxes should be brought within the tax net. A scheme should be devised for rewarding the survey teams who bring new assesseees into the tax fold. The rewards should be linked to the quantum of tax realized from such assesseees. Administration needs to be tightened and, after drawing up lists of traders and businessmen in each market, in the urban areas in particular, the tax net should be extended to cover them. We shall deal later with tax reform for increasing buoyancy and elasticity of revenues, and raising the overall ratio of tax to G D P.

6. It is common knowledge that a very substantial amount of black money is circulating in the economy. In the interests of national development, some equitable scheme should be devised for mobilization of funds from this vast reservoir, of which more later.
7. The capital markets have undergone a structural transformation and mobilization of funds in the form of new capital issues of the corporate sector have substantially increased over the past few years. New capital issues (other than bonus shares) by non-government public companies amounted to Rs.26456 crores in 1994-95 as against Rs. 5757 crores in 1991-92. Overall assistance by financial institutions has also increased considerably during the period. (Vide Tables 2.2 and 2.3)

Table 2.2
New Capital Issues by Non-Government
Public Limited Companies

	No. of Issues.	Amount. (Rs. in crore)	Increase over Previous Year
1991-92	517	5757	—
1992-93	1037	19826	244 per cent
1993-94	1136	19501	(-) 1.7 per cent
1994-95	1685	26456	35.6 per cent

(Excluding bonus shares)

Source : *Reserve Bank of India Annual Report 1993-94*, p. 224, 1994-95 p. 167

Table 2.3
Overall Assistance by Financial Institutions
(Rs. crore)

Assistance	1989-90	1994-95	Increase over 5 years
Sanctioned	15405	60125	290 per cent
Disbursed	9661	32890	240 per cent

Source : *RBI Annual Report 1994-95*, p 169, 1991-92 p 198.

This is an indication that on the whole the investment climate and the tempo of investment were maintained during the years 1989-90 to 1994-95. The overall buoyancy in capital markets, as reflected in the sizeable increase in funds raised, bears eloquent testimony that there is considerable scope for additional mobilization of savings through the capital markets. The investment habit is increasing in urban areas, and tremendous scope exists for its further spread. The rural areas remain almost unexplored and efforts in this direction are likely to be promising.

8. The sustained institutional intervention in the capital market in the form of investment of sizeable funds mobilized by U T I, L I C and other corporations and mutual funds, satisfactory monsoons during the last few years and encouraging corporate performance, should stimulate investment activity. The extension of the policy of liberalization of industrial policy should also encourage new investment.

(c) Reducing Capital - Output Ratio

The other important aspect, besides stimulating savings, is to reduce the incremental capital-output ratio (I C O R) to below 4:1. Since there is considerable unutilized capacity in both the public and private sectors, higher productivity can be achieved through increased utilization of existing plant, given better availability of infrastructure. The capital-output ratio increased from 3.5 during the period 1951-52 to 1959-60, to 5.5 for the period 1970-1 to 1979-80. It subsequently declined to 4.45 during the period 1980-81 to 1983-84. K.N. Raj⁵ has partly attributed the increase in the capital-output ratio to high cost of infrastructure in developing countries. This is in line with Arthur Lewis' view that infrastructural capital costs tend to be very high in periods of urbanization. I C O R declined to 3.9 during the period 1985-90 and is estimated to marginally increase to 4.1 during the Eighth Plan period 1992-97.

Table 2.4
Composition of Gross Domestic Savings and Gross Domestic Capital Formation in India
 (As Percentage of G D P)

	Gross Domestic Savings				Gross Domestic Capital Formation		
	Household Sector	Private Corporate Sector	Public Sector	Total	Private Sector	Public Sector	Total
1980-81.	16.1	1.7	3.4	21.2	12.3	8.7	20.9
1990-91.	20.0	2.7	1.0	23.7	15.9	9.7	25.7
1991-92.	17.8	3.2	2.1	23.1	13.7	9.2	22.9
1992-93.	15.5	3.0	1.5	20.0	14.4	8.9	23.3
1993-94.	17.4	3.5	0.5	21.4	12.8	8.6	21.6
1994-95.*	18.9	3.8	1.7	24.4	14.3	8.8	25.2

Source : *Economic Survey 1994-95*, Government of India, New Delhi, pp S-8, S-9.

Economic Survey 1995-96 for figures for 1993-94 and 1994-95, p 3

*Estimates

As noted earlier, the economy has moved from an average growth rate of about 3.5 per cent per annum to about 5.3 per cent per annum at constant factor price during the last decade. In order to improve the incremental capital-output ratio, the following measures may be suggested:

1. Priorities in regard to allocation of resources have to be determined, and it has to be ensured that they are utilized efficiently and in accordance with predetermined priorities. Fiscal policies and planning need to be rationalized. They involve formulating a phased investment programme, projecting current spending needs, and assessing revenue availability and borrowing requirements for about five years in the context of a consistent macroeconomic framework. Pragmatic budgeting, efficient implementation, and effective monitoring are necessary if the quality of spending and utilization of funds are to be improved.
2. The productivity of existing capital stock and labour has to be raised. Increased infrastructural availability and proper maintenance programmes and incentives are necessary to ensure that full utilization of installed capacity of plant and machinery, other capital stocks and factors of production, is achieved, to realize optimum levels of productivity.
3. Modernization and technological upgradation of existing plant and induction of state-of-the-art technology are necessary, so that economies of scale are realized, cost per unit of production is reduced, and industry remains competitive. The demand base for a number of commodities can be widened only by reducing the unit cost of production.
4. The potential for increase in agricultural production in the country is vast; the strategies formulated by government are commendable. What is needed is effective implementation and efficient functioning of the institutional framework. This would enable the achievement of the

targeted growth rate of 4 per cent in agriculture (Seventh Plan), provided the structural institutional changes, partially implemented, are further stimulated. The Green Revolution needs to be extended to other states, particularly Bihar, Tamil Nadu and Uttar Pradesh. It appears that one of the remedies for inefficient implementation is decentralization. The people in rural areas should be involved in, say building roads, irrigation, water supply, sanitation, transport, health and educational services. District monitoring committees should be constituted and NGOs actively involved under the aegis of the district collector to ensure that funds are properly spent to yield optimum results.

5. In order to alleviate poverty and supplement the incomes of farmers and landless labour in rural areas, non-agricultural activities in the rural sector should be encouraged. Agro-industries particularly food processing industries would contribute to buttressing rural incomes. The Government should provide budgetary incentives and an institutional framework for identifying cottage industries and trades, formulating schemes, creating infrastructural facilities, supplying finance and offering guidance for the development of such activities. The beneficial effects would be inestimable. Employment and income have to be created in areas where the economy has a comparative advantage. Domestic structural adjustments, as necessary, may be made to ensure that exports are stimulated.
6. Considering that the plant-load factor is extremely low in certain regions, and even the average of 56 per cent is comparatively low, there is enormous scope for increasing the output of power even with the existing plants. As for new plants in the project stage, state of the art technology needs to be inducted. Transmission losses have to be reduced and maintenance of plants improved. All these factors would not only

reduce the capital-output ratio in the energy sector, but improved infrastructural availability would contribute to more effective utilization of industrial capacity, reduction in loss of production, increase in irrigation capacity, and a sizeable decline in I C O R.

7. Delays in completion of projects, particularly capital-intensive plants, have resulted in increasing the capital-output ratio. Delays in completion in the context of inflationary increase in the cost of plant and machinery all over the world have led to over-capitalization. Costs of construction, due to inadequate monitoring and wastages, have also been high, particularly in the case of large irrigation and power projects, steel and heavy engineering plants. The cumulative effect of all these and other factors, such as determination and location of plants on grounds other than economic, outdated technology, and poor quality of equipment has been to increase the capital-output ratio. Efficiency of investment needs to be greatly improved, if I C O R is to be reduced to below 4:1.

Tables 2.4 and 2.5 show that the level of private sector savings in India have a remarkable similarity to the level of private savings achieved by the East Asian economies. But when aggregate savings are compared, it is observed that public savings are around one per cent of G D P in India, while in East Asian countries, they range between 7.7 per cent in Indonesia to 18.5 per cent in Singapore. (Vide Figure 4.2) Increase in public savings is necessary to sustain investment in economic and social infrastructure by the Government as also higher levels of private investment, reduction in poverty, and to emulate East Asian economies in achieving high growth targets.

Table 2.5
Public and Private Savings of High Performing Asian Economies and India.
 (As percentage of G D P)

	Public Savings	Private Savings	Total Savings
Indonesia			
1981-88	7.7	14.0	21.7
Japan			
1955-70	6.2	17.2	23.4
1971-80	4.6	20.1	24.7
1981-88	5.1	15.8	20.9
Malaysia			
1961-80	3.2	18.7	21.9
1981-90	10.3	19.1	29.4
Singapore			
1974-80	5.5	22.6	28.1
1981-90	18.5	24.0	42.5
Thailand			
1980-85	14.3	4.7	19.0
1986-87	8.6	14.6	23.2
India			
1989-91	1.3	21.7	23.0
1991-92	2.1	21.0	23.1
1992-93	1.5	18.5	20.0
1993-94	0.5	20.8	21.4
1994-95	1.7	22.7	24.4

Source : World Bank, *The East Asian Miracle; Economic Survey 1994-95* G.O.I.

Adapted from *World Bank Country Study: Economic Developments in India* 1995, Table p. 15.

2.2. Some Basic Theories of Development

Traditional societies are trapped in a low-level income equilibrium; low levels of productivity lead to low per capita incomes and small savings, consequent upon which capital accumulation is of low order and productivity and income are stagnant. In order to break the shackles of poverty and to emerge from this 'low – level equilibrium trap', capital accumulation, higher levels of investment and induction of technology and skills become imperative. Structural transformation of the economy, development of infrastructure – economic and social – and building up and modernization of the social, political and economic framework and institutions become necessary concomitants of development. Growth postulates capital formation and while Rostow (1960) emphasizes upon effectuating a critical ratio of investment to national income in order to transform the economy from the take off stage into that of sustained growth, Arthur Lewis (1955) stresses upon the need to sizeably raise the level of savings and investment in the economy.

Besides, owing to low levels of income, there is a general lack of purchasing power with the people which severely restricts the size of the market. The inducement to invest for entrepreneurs is weak and this operates as a constraint upon them to undertake capital investment and build factories and power houses. Hence, Leibenstein insists upon a 'critical minimum effort' – investment in a few industries of optimum size – to provide a substantial stimulus to growth in order to break the vicious circle and take the economy into a higher income-level equilibrium.

Foreign capital and technology have an important role to play in supplementing domestic efforts, and history shows that there is hardly any country in the world including Britain, USA, Russia and Japan which did not imbibe foreign capital for development. Reference may be made to certain Tables, which are highly relevant. While Table 4.1 gives an analysis of G D P of certain selected

countries, Tables 4.2 and 4.3 indicate the breakup of their total expenditure and current revenue for 1980 and 1993. These analyses reflect the compositional changes in G D P, expenditure and revenues which manifest themselves as industrialization and economic advance take place. Contribution of agriculture of G D P diminishes, while that of industry and services escalates. Expenditure on social services increases which promotes distributional equity and reinforces growth. Collections from direct taxes account for an increasing share of revenues while those from indirect taxes get reduced, as standards of living improve and poverty declines.

We may now consider certain seminal theories of development relevant to our theme.

(a) *Nurkse : Breaking The Underdevelopment Equilibrium*

Economic growth, particularly in the early stages of development, is a function of capital formation. The importance of accumulation of capital as the leading factor for economic growth has been recognized by all. Ragnar Nurkse⁶ believes that the dichotomy between demand and supply is also applicable to the forces that account for accumulation of capital. He defines the well-known vicious circle of poverty, to which is attributable the persistence of underdevelopment of economies, as 'a circular constellation of forces tending to act and react upon one another in such a way as to keep a poor country in a state of poverty'. While the supply of capital depends upon the ability and willingness to save, the demand for capital is determined by the inducement to invest : and there is a circular relationship on both sides of the problem of capital formation. On the supply side, the small capacity to save, resulting from the low level of real income, is a reflection of low productivity, consequent upon paucity of capital, which is due to the small capacity to save. On the demand side, the inducement to invest is low because of the restricted purchasing power of the people, consequent upon low real incomes, which again is due to low productivity

– a result of the small amount of capital used in production. This may be caused partly by the small inducement to invest. The low level of real income, reflecting low productivity, is a point that is common to both circles, and the economy is in a state of underdevelopment equilibrium.

In order to break the vicious circle of poverty, it is necessary that a large number of entrepreneurs invest in a number of industries, and there is a substantial volume of investment in the economy, so that incomes and demand for products increase all round. Rapid growth is engineered by investment of various entrepreneurs creating recurrent waves of industrial progress. Simultaneous action of a large number of industrialists making investments, producing new commodities, making innovations and combining the factors of production in diverse ways spurs growth. Investment in a variety of industries, supported by new technologies and innovations, increases incomes and productivity, and has a multiplier effect upon other industries; and the initial investment promotes a wave of new applications of capital over a wide field of diverse industries.

While investment by an entrepreneur in an industry may face difficulty, in that there may not be sufficient demand for its products, a wave of capital investment in a large number of diverse industries would tend to increase the momentum of industrial growth, because the amount paid out to various factors of production would provide the necessary demand for the products of those industries.

(b) *Rostow: Stages of Economic Growth*

W W Rostow,⁷ in his '*The Stages of Economic Growth*' (1960), seeks to identify five stages of development, and to classify societies in accordance with those stages: traditional, transitional, take-off, maturity and high mass consumption. Rostow says that take-off is the great watershed in the life of modern societies; it is the stage during which the obstacles and resistance to steady growth are finally overcome and the forces of growth acquire momentum and become

dominant. Infrastructure is built up and technological progress permeates industry and agriculture. The rate of effective savings and investment rises from about 5 per cent to about 10 per cent or more to ensure self-sustaining growth. Defining take-off, he says, 'first, it is the period in the life of an economy when, for the first time, one or more modern industrial sectors take hold, with high rates of growth, bringing in not merely new production functions but backward and lateral spreading effects on a substantial scale; second, for a take-off to be said to have occurred, the economy must demonstrate the capacity to exploit the forward linkages as well, so that new leading sectors emerge as the older ones decelerate'.

The economy should also have the capability of successfully coping with the structural crisis arising out of the initial surge of growth and to induct advanced technologies which accelerate and sustain growth. The take-off may cover a period of about two decades. As the older sectors decelerate, new leading sectors must take over. The development of modern and sunrise industries with high technology should be accorded priority. Factors of production - men, materials and resources - need to be transferred from the less to the more efficient sectors, and as the experience of Japan indicates, such transfer facilitates acceleration of the growth of the economy.

Take-off may be followed by the stage of maturity, about sixty years after take-off begins (forty years after the end of take-off). In this period, society effectively applies the most modern technology to the bulk of its resources. New leading sectors accelerate, while the older ones decelerate. According to Rostow, the steel industry is one of the symbols of maturity. Rostow has indicated the tentative approximate dates of take-off and technological maturity in respect of certain leading countries (Vide Table 2.6, adapted).

Table 2.6
Dates of Take-off and Technological Maturity

Country	Take-off	Technological Maturity
Great Britain	1783-1802	1850
USA	1843-1860	1900
Germany	1850-1873	1910
France	1830-1860	1910
Sweden	1868-1890	1930
Japan	1878-1900	1940
Russia	1890-1914	1950
Canada	1896-1914	1950
China	1978-1981	-
India	1984-85 Onwards	-

Note : Take off dates for India and China have been modified.

Source : W. W. Rostow, *The Stages of Economic Growth*, 1960, Cambridge University Press, Cambridge (U.K.) p. 38 (Adapted)

During maturity, nations have to decide between various political and socioeconomic alternatives: should wealth be channelized towards high mass consumption, the evolution of a welfare state, or for imperialist objectives? Most countries will reach the high mass-consumption stage, whatever be the balance of choices. We are not particularly concerned with this stage here.

Despite severe criticism by S. Kuznets and others – that the demarcation between the transitional stage and take-off, and between take-off and maturity, is blurred, and empirical and quantitative evidence is not available – Rostow's thesis has commanded world-wide attention because of three factors. He has provided useful insight, analysis and description of the development process; he has identified key growth variables during various stages of development; and his identification of the take-off stage and the determinants and prerequisites for

take-off provide valuable assistance in the formulation of a policy framework for growth in developing countries.

(c) *Leibenstein: Critical Minimum Effort Thesis*

Closely related to Rostow's take-off concept is the critical minimum effort thesis of Harvey Leibenstein (1955). Leibenstein⁸ says that underdeveloped economies are characterized by the existence of a vicious circle of poverty and a state of low income equilibrium; in order to break the vicious circle and take the economy into a higher income level equilibrium, a certain 'critical minimum effort' is necessary. If the capital accumulation is of sufficient magnitude to ensure that the income raising factors are stimulated beyond the maximum of income-depressing factors, the critical minimum effort would be reached and the economy would progress on the road towards sustained development. Transition from the state of backwardness to a more developed one with steady secular growth postulates that the economy should receive a stimulus to growth greater than of a 'certain critical minimum size'. The quantum of investment representing the critical minimum effort required must be large enough to reduce or overcome indivisibilities and diseconomies of scale in the economy, counter other factors, such as population explosion, which tend to depress development, and to generate sufficient momentum in the system so that the growth-stimulating factors continue to be operative. The investment must also be concentrated among a few industries of an optimum size rather than be spread over a large number of small units; and it should be made in a sizeable 'lump', and not in the form of marginal or small increments made by various individuals whose decisions are uncorrelated.

It would appear from this thesis that in the early stages it may be necessary for the state to intervene and to make sizeable investment, say in accordance with a central plan for development.

(d) *Keynes : Advocacy of Necessity of State Intervention to Alleviate Unemployment during Depression*

J. M. Keynes⁹ stated that in times of depression and unemployment, it was necessary for the state to intervene and increase investment by borrowing and spending on programmes of public works.

He argued that savings created a gap between income and consumption, and the fact that part of the savings were not invested accounted for unemployment. Investment needed to be stepped up to fill this gap and stimulate effective demand, which would increase employment. If investment was increased, total income would increase by an identical amount because investment creates income and the extra income would be sufficient to produce additional savings, equivalent to the quantum of new investment. Savings depend upon income and liquidity preference. Investment however depends upon output as well as return on capital employed, known as marginal efficiency of capital and rate of interest (besides business confidence and tax policy).

The increase in money supply consequent upon state intervention and increase in investment would increase aggregate demand and cover the deflationary gap. This would bring about adjustment between supply and demand and restore equilibrium, so as to reduce over-production and general unemployment. He put forward his concept of functional finance and asserted that in times of depression, the state should formulate deficit budgets. The War contributed to the propagation of Keynes' ideas by demonstrating the success of state intervention. The enormous expenditure by the state during the War resulted in breaking the under-employment equilibrium and full utilization of installed capacity of the productive apparatus.

(e) *W. Arthur Lewis: Capital Formation with Unlimited Supply of Labour*

Besides his magnum opus '*The Theory of Economic Growth*' (1955), W. Arthur Lewis' article in '*Manchester School*' (May, 1954) entitled '*Economic Development*

with Unlimited Supplies of Labour'¹⁰ in the context of a dual economy with a modern industrial sector and an indigenous subsistence sector, received considerable attention. Using the framework of a classical model of a dual economy in an under-developed country with over-population, he emphasized that economic development occurs when capital accumulates consequent upon withdrawal of surplus labour from the subsistence sector to the 'capitalist' sector. There are unlimited supplies of labour in the subsistence sector in that the supply is in excess of the demand for labour at the subsistence wage; and due to over-population relatively to its natural resources, the marginal productivity of labour is negligible, zero or even negative.

The surplus labour is available for employment at the subsistence wage or labour may also be available at a wage 'equal to the average product per man in subsistence agriculture, plus a margin'. With unlimited supplies of labour, industrial growth can take place and industries established without limit by drawing labour from the subsistence sector at the subsistence wage. Since skilled workers are also required, these can be trained.

As development proceeds, capital will be applied only upto the point where the marginal productivity of labour equals the current wage. Since the marginal productivity of labour in the industrial sector is higher than the capitalist wage, surplus emerges which Lewis terms as the capitalist surplus. He states

'The key to the process (of capital formation) is the use which is made of the capitalist surplus. In so far as it is reinvested in creating new capital, the capitalist sector expands, taking more people into capitalist employment out of the subsistence sector. The surplus is then larger still, capital formation is still greater and so the process continues until the labour surplus disappears'.

Two points are central to Lewis' model : (1) that due to unlimited supplies of labour, the real wage is constant and (2) the whole benefit of capital accumulation and increase in productivity due to technical progress goes into

the capitalist surplus. The increase in profit provides the incentive for investment and growth. Wages being constant, the only benefit to the workers from the expansion is that more of them get employed at a wage above the subsistence earnings.

Lewis states that the process of growth cannot continue indefinitely and would come to a halt with certain occurrences, such as, *inter alia*, if workers in the capitalist sector succeed in having their wages increased due to trade union activity *et al*, the capitalist surplus and the rate of savings, investment and growth would decline.

Lewis' theory is applicable to India subject to certain reservations : (1) Due to strong trade union activity, even in real terms, wages have been rising and are far above the subsistence or industrial wage as conceived by Lewis. Actually, in the textile and certain other industries on Bombay side, and particularly in the case of certain multinational companies, wages to labour constitute islands of comparatively high income as compared to the earnings of the masses of middle and lower income groups. (2) Another important point is that despite high wages – much above the sustenance wage – the capitalist surplus or profits cannot be said to have been adversely affected. Due to innovations and improving technology, the profitability of industry, together with the marginal product of labour, have been steadily rising. And as the capitalist surplus continues to be reinvested, development takes place. Lewis' assumption of constant industrial wage is not applicable to Indian industry and capitalist sector. This is a basic flaw.

However, it must be stated in conclusion that despite limitations, the dual sector theory has tremendous analytical value and provides an explanation as to why in an under-developed society, robust development does not take place due to scarcity of capital. Inflation caused by credit creation is not self-liquidating as asserted by Lewis, but his analysis of the problems of credit inflation, population growth, technological progress, and international trade is realistic and useful.

(f) *Myrdal: Process of Circular and Cumulative Causation; Backwash Effects and Spread Effects*

G. Myrdal's¹¹ concept of geographic dualism and the process of circular and cumulative causation applicable to nations and regions within countries and his analysis of the various factors on account of which economic disparities between regions and countries tend to be accentuated and perpetuated are highly significant for developing economies. The hypothesis of cumulative causation seeks to explain the backwardness of developing economies expressed in terms of various development indices such as per capita incomes, rates of growth of incomes, trade, industrialization, employment et al. The concept is in direct contradiction to the static equilibrium theory which states that disequilibrium situations tend towards equilibrium and the operation of economic forces would reduce spatial divergences.

Myrdal states that in the context of dualism, various factors such as labour movement, capital flows and trade retard the growth of the backward regions, and the economy as a whole. If due to say an exogenous factor, there is rapid growth in one region as compared to another, economic and social forces - aided by the operation of the multiplier-accelerator mechanism - would accentuate the consequent disequilibrium in that they would eventuate cumulative expansion in the more developed region at the cost of the retarded region.

'In the normal case a change does not call forth countervailing changes but, instead, supporting changes which move the system in the same direction as the first change but much further. Because of such circular causation a social process tends to become cumulative and often to gather speed at an accelerated rate' (Myrdal 1958).

A chain of cumulative expansion occurring in the developed region has 'backwash effects' upon other regions, consequent upon which, disparities in development are further accentuated. Capital, labour, trade, entrepreneurship

would tend to migrate to the developed regions, where demand is buoyant and return on capital high. With growth in factor supplies and production yielding increasing returns, competitive advantage over the other regions and incomes also increase. Economic and social infrastructure such as power, roads, communication, as also housing, education and health facilities expand in response to prosperity and migration of factors, thereby further increasing comparative competitive advantage of the expanding regions.

Myrdal also refers to 'spread effects' of development of certain regions upon the backward regions: the benefits trickle down in the form of increased demand for the goods produced by backward regions and diffusion of technology, skills and knowledge. The 'spread effects' however are much weaker than the 'backwash effects', and Myrdal states that if the imbalance is to be rectified, state intervention is necessary.

Myrdal states that his hypothesis of the process of circular and cumulative causation is equally applicable to and explains the international disparities in development between various countries of the world. Through trade, capital movements and labour migration, such divergences in incomes and growth are perpetuated.

Myrdal however, is on a weak wicket when he applies his theory to international capital movements and effects of labour migration. Actually, capital flows are not so much from developing to developed countries as the other way round, and the former are long-term importers of capital. As regards migration of labour, developing countries stand to gain in so far as migration of unskilled workers are concerned, as often there is over-population or under-employment. Besides, remittances from workers working in foreign countries add to invisibles.

Thirlwall¹² states that there has been no tendency in the recent past for international per capita income levels to converge; as such the hypothesis is not refuted by evidence. But the fact is that according to *The Economist*, not only

Japan, but East Asian per capita incomes are converging towards those in developed countries. Taking these factors into account, it would appear that while Myrdal's hypothesis is on a sound basis with regard to regional disparities, and his emphasis on increasing returns in progressive regions, development as a cumulative phenomenon and its challenge to static equilibrium theory are highly relevant, the application of his concept to international divergences of incomes between nations is only partially effective in the modern world.

Chapter 2 References

1. World Bank, *Country Economic Memorandum for India* presented at Aid India Consortium Meeting in Paris in Sept. 1991, *The Economic Times*, Calcutta, 7 October 1991.
2. George Rosen, *Industrial Change in India* 1959 p. 37
3. Alak Ghosh, *New Horizons in Planning*, The World Press Private Ltd., Calcutta 1982, p. 44.
4. Ministry of Finance, *Long-Term Fiscal Policy*, Dec. 1985, p. 4.
5. K. N. Raj 'Some Observations on Economic Growth in India over the Period 1952/53 to 1982/83', *Economic and Political Weekly*, 19 (13 October 1984), p.p. 1801-4.
6. Ranger Nurkse, *Problems of Capital Formation in Underdeveloped Countries*, Basil Blackwell, Oxford, 1955, p. 4.
7. W. W. Rostow, *The Stages of Economic Growth*, CUP, Cambridge 1960.
8. Harvey Leibenstein, *Economic Backwardness and Economic Growth*, Wiley, New York, 1957.
9. J. M. Keynes, *General Theory of Employment, Interest and Money*, Macmillan, London, 1936.
10. W. Arthur Lewis, 'Economic Development with Unlimited Supplies of Labour', *Manchester School*, May 1954.
11. Gunnar Myrdal, *Economic Theory and Underdeveloped Regions*, Vora & Co. Publishers P. Ltd., Bombay 1985, p. 23.
12. A. P. Thirlwall, *Growth and Development*, ELBS Macmillan, London, 1994, p. 134.