

**INDUSTRIAL STRUCTURE OF INDIA :
EVOLUTION AND POLICY**

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DECLARATION

Certified that the dissertation entitled ' Industrial Structure of India : Evolution and Policy ' submitted by Mr. Rajiv Jha is for the award of the Degree of Master of Philosophy of this University. This dissertation has not been previously submitted for any other degree of this or any other University and is his own work.

We recommend that this dissertation may be placed before the examiners for evaluation.


Supervisor


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Ravi typed it within two days and in good humour.

Ravi

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1. History

Despite early investments in modern industry, India at independence could be characterised as a predominantly agrarian economy. Large scale industry, together with mines, accounted for only 7% of the national income compared to 10% of the small scale industry, 49% of agriculture and 34% of the construction and the services sector (Final Report of the National Income Committee, 1954). Employment in large scale industry, mines and small scale industry (excluding trade, transport and construction) amounted to an insignificant 9.5% of the workforce. Above all, nearly 3/4 of the organised sector production consisted of traditional activities like textiles, food processing and processing of agricultural raw materials while commodities like capital goods and intermediates still had to be procured from metropolitan countries.

Three broad phases of industrialisation need to be distinguished. The last quarter of the 19th century saw India as a source of raw materials for Britain and as a sphere of investment for British capital. The industries established during this period were largely connected with processing raw materials for export -- the major industries thus were cotton-ginning, cotton and jute pressing, cotton and jute textiles and tea. The beginnings of heavy industry (coal, metallurgy and railway workshops) did not essentially contradict the fact that most of the industrial output was designed for export. Such enterprises were set up to aid the production and handling of export goods.

Regional enclavism was a corollary of the production-for-export policy. The majority of the enterprises were concentrated in Bombay, Calcutta and Madras. Indian capital dominated cotton textile production while foreign investment was concentrated in jute and tea. Further, given that Britain was the sole supplier of equipment and manufactured goods, imported goods were practically exempted from customs duty; and given that most orders from the government agencies, the army and the railways were placed in the metropolitan country, the scope for setting up new enterprises (except those processing local raw materials or geared towards export production) was rather limited.

The turn of the 20th century aggravated earlier tendencies -- output and export of cotton, jute and tea increased. However, new enterprises supplying the domestic market were also established and these included paper, sugar and cement. Of the two largest industries, cotton and jute textiles, cotton textiles developed a pronounced domestic bias as Japan stealthily captured India's most important markets: in 1906, more than three quarters of China's yarn import was supplied by India; by 1914, Japan had become the largest single exporter of cotton yarn to China (Charlesworth, 1982). However, Indian capital did dominate all industries supplying to the domestic market (except matches and power).

The First World War (1914-1918) also witnessed the rapid growth of Tata Iron and Steel Company -- in response to shortages during the war and tariff production thereafter. By the end of the war, the American and Japanese capitals were also attempting to make inroads into the Indian market -- thus, a scheme of

'discriminating protection' aimed at the non-British rivals of industry, was launched. Ferrous metals from Germany, France and Belgium had a duty slapped on to them; similarly cotton textiles from Japan, sugar manufactured by the Dutch in Indonesia and matches from Sweden were deterred from entry through import duties. Indian industrial development was however restricted by the policy of 'imperial preferences' which extended special privileges to British capitalists importing manufactured goods to India.

To put it another way, the system of protection in the inter-war period did lead to some development of light industry, but hampered the growth of capital goods. Major industries such as cement, chemicals, sugar, power and ferrous metals which had appeared at the beginning of the 20th century, continued to develop. Indian capital played a significant role in all these industries but power. The inter-branch dislocation (in terms of machine manufacturing capacity) within the factory sector became more pronounced.

By the late 1930s, this transient spurt had also fizzled out. It was only during the Second World War that a significant opportunity for the manufacture of 'producer' goods arose: however, the transformation of money capital into productive investment was hindered by the difficulty of importing equipment and/or the scarcity of skilled labour. That notwithstanding, the exigencies of war did lead to the creation of nascent engineering industries such as machine tools, electric motors, components and spares and also certain chemicals. Even in these industries, the

limited import of equipment led to the wearing out of machinery. The average annual import of equipment for cotton industries, for instance, amounted to Rs.19.4 million -- this supply could not have met more than 20%-25% of the demand (Shirokov, 1973). Further, railway workshops were busy with the war effort and thus railway transport deteriorated.

To summarise, the difficulties involved in the conversion of savings into productive investment prevented not only the expansion of production but even the normal reproduction of major industries. As a matter of fact, it is the repair shops which dominated the machine building industry -- even excluding railway workshops, they accounted for 48% of the total value of industrial production (Shirokov, 1973). Clearly, self-reliant industrialisation would need "Department I" industries and almost as a corollary, public investment would step in to fill the gaps in the production structure.

2 The Mahalanobis model

This is the background to the Mahalanobis strategy -- in fact, it provided the basis of the 'Bombay Plan' too, even though it was drafted by the leading capitalists of the pre-independence era.

Given the importance of the Mahalanobis model in the Indian industrialisation debate, it would be useful to set it up formally. His basic two-sector model, involving non-shiftability of capital stock, is based on the following assumptions --

- (i) There are two vertically integrated sectors producing al goods and consumer goods respectively.

(ii) The currently existing stock of capital is sector specific.

(iii) The current production of investment goods, which is directly related to the capacity of the capital goods sector, can be allocated to any of the two sectors.

(iv) The economy is closed -- in the sense that possibilities of international trade are limited.

Let investment at any point of time be allocated to either the capital goods sector or the consumption goods sector.

Define: l_k = proportion of investment going to the capital goods sector

l_c = proportion of investment going to the consumption goods sector

Obviously, $l_k + l_c = 1$

b_k = inverse of the capital output ratio for the capital goods sector

b_c = inverse of the capital output ratio for the consumption goods sector

a_0 = initial ratio of investment to income

Y_0 = initial income

Then it can be shown that (Bhagwati and Chakravarty, 1969):

$$Y_t = Y_0 \left[1 + a_0 \left(\frac{b_c l_c + b_k l_k}{b_k l_k} \right) \{ (1 + b_k l_k)^t - 1 \} \right]$$

The following conclusions emerge:

(a) Assuming capital output ratios to be technologically fixed (i.e. b_k and b_c are fixed), the rate of growth of output depends on a_0 and l_k (l_c gets fixed once l_k is known). Further, if a_0 is also

a given datum then the planner has only one instrument: l_k which is the proportion of investment going to the capital goods sector. Mahalanobis emphasised l_k by claiming, "unemployment is chronic because of the lack of capital goods" (Mahalanobis, 1963).

(b) The rate of growth is essentially affected by the product of two terms:
$$\frac{(b_c l_c + b_k l_k)}{b_k l_k} (1+b_k l_k)^t$$

For small values of 't', the reduction in the expression
$$\frac{(b_c l_c + 1)}{b_k l_k}$$
 (assuming $b_c > b_k$) caused by a high value of l_k may nullify the value of the term $(1+b_k l_k)^t$. Over time, however, $(1+b_k l_k)^t$ would dominate the product of these two terms i.e. even the growth would be maximised through a high allocation of investment in the capital goods sector, consumption would be restrained in the initial phase of planning. The choice of l_k not only determines the growth trajectory but also assigns a greater weight to future versus present consumption (assuming $b_c > b_k$).

The emphasis on l_k was clearly a response to the imbalance in the industrial structure -- it implied that even if savings existed which could be invested, there were not enough capital goods in the economy where they could be productively embodied. There were two assumptions implicit in this proposition -

(i) it was not feasible for the economy to import capital goods through exports of primary commodities

(ii) non-shiftability of capital goods between sectors was assumed. If the existing capital stock had been homogenous like 'putty', then it could be reshuffled between the two sectors with

ease. However, if it was like 'clay' (embodied in machines), then its non-shiftability limits its transformation possibilities between the two sectors. The non-shiftability assumption links consumption in the current periods to the stock of capital goods engaged in producing consumer goods -- over time, consumption gets associated with a higher allocation of investment to the capital goods sector.

Further, to increase the proportion of investment going to capital goods, the proportion of investment going to consumer goods would have to decrease. "The proper strategy would be to bring about a rapid development of the industries producing investment goods in the beginning by increasing appreciably the proportion of investment in the basic heavy industries. As the capacity to manufacture both heavy and light machinery and other capital goods increases, the capacity to invest (by using home produced capital goods) would also increase steadily and India would become more and more independent of import of foreign machinery and capital goods." Mahalanobis (1963).

In a variant of the Mahalanobis model -- the Lewis model -- the rate of accumulation is determined by technology and saving propensities, once the wage rate is exogenously specified. Given that capital is fully utilised, the profit maximising technique and the total profits are computed; and if we further assume that wages are consumed and profits are saved, we obtain the rate of accumulation of capital stock. With a constant returns to scale production function, the capital output ratio allied to 'the' profit maximising technique remains the same as long as the wage

rate remains constant. Formally (as Chakravarty has demonstrated), let $Y = F(K, L)$ be a CRS production function (symbols have usual meanings).

$$\text{Then } Y = L \cdot F\left(\frac{K}{L}, 1\right)$$

$$\frac{\partial Y}{\partial L} = \bar{w} = F\left(\frac{K}{L}, 1\right) - L F\left(\frac{K}{L}, 1\right) \frac{K}{L^2}$$

Letting $K/L = k$

$$\bar{w} = f(k) - kf'(k)$$

As all profits are saved and invested, the rate of profit equals the rate of growth of capital stock. Thus in Lewis' model, where unemployment arises because the marginal productivity of labour at full employment is significantly below the subsistence wage rate, effective demand problems just do not arise.

There is a basic problem here -- capital need not be fully utilised even when the rate of returns on it do not fall to zero (One simple reason could be that wage bargains are conducted in 'money' terms instead of 'real' terms. Thus, when prices rise, real wages might fall and given that the demand for food is price inelastic, the residual spent on industrial commodities would fall). Given this underutilisation of capital at non-zero returns, distinctions have to be made between decisions to save and decisions to invest, so that investment behaviour can be adequately explained. Mahalanobis simply assumed away the problem of channelising savings into investment -- possibly by assuming that the State could always tax away the savings of the capitalists. He clearly did not visualise that the ambit of State action is necessarily circumscribed in a mixed economy -- it is only in a

socialist economy that all non-wage income essentially accrues to the State. The curtailment of public investment from the mid '60s to the mid '70s has made us painfully aware of the absence of a 'financial' side in the Mahalanobis model.

His strategy has been criticised on many other counts -- of these, the export-led-growth Bhagwati class of arguments appear rather unrealistic for a large country. The more important arguments relate to the disproportionality between agriculture and industry -- the treatment of agriculture as a 'bargain' sector. In a sense, this formed the background to the Bukharin-Preobrazhensky debate in which Bukharin claimed, "While industry develops at a tremendous pace, whilst the population increases rapidly and the needs of this population increase steadily, the amount of grain remains unaltered". Kalecki had made the same point when he demanded that a certain proportionality be maintained between the rate of growth of agriculture and the rate of growth of national income. The most obvious way in which a low agricultural growth affects the economy is through a terms of trade shift away from industry. This leads to lower 'real' wages, given industrial 'product' wages and thereby generates a smaller profile for industrial goods (given that food has first priority over wages). It is clear that in associating development (in the long run) with the pattern of investment, Mahalanobis' emphasis was on 'physical' planning rather than financial planning.

Fundamental asymmetries exist in the Mahalanobis model -- not only in the treatment meted out to agriculture compared to industry but also in the favoured treatment to heavy industry compared to

the almost step-motherly treatment to consumer industry. However, in his 4-sector model, Mahalanobis emphasised not only increases in l_k but also b_c -- this is evident through the scattered statements that he made in the Second Plan about the employment generating potential of small 'capital light' industry. Moreover, he did recognise, though perhaps not adequately, the need for a balance between heavy and light industry when he said, "Investment in basic industry must not be pushed above the point beyond which the increase in demand caused by the increase in purchasing power cannot be absorbed by the additional production of consumer goods". (Mahalanobis, 1963)

In toto, it can be surmised that the Mahalanobis model did make an attempt to grapple with the problem of self reliance in a backward economy -- analytically, he attempted to demonstrate that a transition between a low growth steady state and a high growth steady state would involve a 'traverse' which allocated a high proportion of investment to capital goods. In terms of the wider plan strategy, he emphasised the employment generating effects of small industries, even though this policy would hamper modernisation in the immediate future. We shall examine the political economy associated with the unravelling of the Mahalanobis strategy in the next chapter.

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CHAPTER 2 THE POLITICAL ECONOMY OF THE MAHALANOBIS STRATEGY

It can be argued that the failures of the Indian economy are a fallout of the Mahalanobis strategy. Liberal economists have thus castigated the Mahalanobis strategy for our current technological atrophy -- the aftermath of policies which emphasised import substitution instead of altering the production structure through trade.

Another class of arguments faults Mahalanobis with the neglect of the agrarian sector -- the only reason why agriculture could be treated as a 'bargain' sector in the pre-1965 period was because of the option of 'extensive cultivation' had not been exhausted. In the post-1965 phase, some variant of a 'wage goods' constraint has always been operative -- foodgrain shortfalls caused bouts of inflation and the reduction in the 'real wages' probably checked the demand for industrial products given the price inelastic nature of the demand for food. Further, the erratic nature of commercial crop output has affected capacity utilisation in the allied agro-based industries.

Superimposed on the fetters of an agrarian constraint is the fiscal crisis that the State faces. A possible rationale for the cutback in public investment in the post-1965 period was the inflation it would engender given an underlying agricultural barrier (because of the wage component of public investment). A more interesting hypothesis locates this financial constraint in the class character of the State. The State's inability in taxing private incomes to finance public investments forms one side of the picture -- the other side concerns the viability of deficit

finance: the State is constrained to alleviate the impact of deficit finance generated inflation on the salariat and the organised workers. Mahalanobis had, of course, assumed away the financial side of investment -- in terms of the plan strategy, the State's ability to tax the surplus accruing to the property owning classes was easily frustrated and the public sector did not generate the reinvestible surpluses as perhaps Mahalanobis had visualised. Fiscal crises have clearly plagued the Indian economy since the Third Plan -- "how to obtain resources for public investment purposes while encouraging the growth of incomes in private hands" did serve as the model for Nehru's State-aided capitalism but has proved to be one of the most intractable problems of Indian public finance.

My thesis attempts to argue against the foreign trade option for a subcontinental sized economy that India surely represents -- though it does emphasise the importance of engendering technical change. While accepting the 'built-in-depressor' impact of the agrarian constraint, it argues against technocratic 'water management' and 'credit accessibility' solutions to Indian agriculture -- agricultural growth has to be embedded within egalitarian production relations. It favours an agricultural-demand-led-home-market-based growth -- and for this the organisational parameters of costless capital formation in the rural sector have to be explored. Further, it argues that Nehru's capitulation to feudal interests in agriculture not only frustrated land reforms and thus a progressive agrarian structure, but in perpetuating production relations based on subjugation and

repression, thwarted the possibilities of an agricultural-demand-led growth. One has to view costless capital formation under different modes of social organisation -- modes of domination which subvert elementary forms of political democracy in the rural areas cannot lead to high rates of growth in agriculture either.

Given that only one of the three constraints -- savings, imports and agriculture -- could be binding at a point of time, the Mahalanobis strategy chose to base its 'capital centered' approach on the import constraint. To institutionalise the process of capital accumulation in terms of the wider plan strategy, the State would step in with massive public investment. This policy would not only bridge infrastructural gaps in the production profile (manifest in the virtual absence of electrical and non-electrical machinery, machine tools, transport equipment etc.) but would also result in an expansion of home market directly and through auxillary multiplier - accelerator effects.

The other stimulus to growth in the plan strategy was to come from import substitution. Across the board increases in tariffs were instituted -- protection was to be aided through quotas on imports. The Soviet influence was apparent through the introduction of a wide range of controls on capacity creation, production and prices so that private funds could be channelised in appropriate directions. Given a narrow existing capital market, private sector funds would be partially supplied by specialised financial institutions.

This framework provided the basic scaffolding for the Second and Third Five Year Plans. The First Plan was more of a

reconstructional effort -- its concentration on agriculture, irrigation and power did not betray a 'heavy industry' bias.

This strategy did lead to a high growth trajectory -- between 1951 and 1965 the Index of Industrial Production Registered a Growth of 7.2% per annum. This pace of growth had the following characteristics:

(a) Stringent import controls had restricted the imports to capital goods, maintenance inputs and food. However, this phase of heavy industrialisation has often been labelled as "import intensive import substitution" because of the rapid growth of domestic demand in import intensive sectors, particularly capital goods. Till 1957, import substitution was highest in consumer goods and capital goods were imported at will. Unlike imports, export growth was limited and its composition unchanged. Between 1952 and 1965, exports grew at around 2.5% per annum, which was less than the growth rate of world exports in this period. Gross aid inflow (exclusive of grants) was Rs.2199.6 crores during the Second Plan and Rs.4364 crores during the Third Plan. By the mid sixties, imports exceeded export values by 80% and the foreign aid required to meet this gap had risen to about 3% of the national income.

(b) Almost as a corollary, technological dependence also increased during this period and with it, the role of the multi-nationals. In the pre-war colonial period, foreign capital had been dominant in trade, finance and export activities like tea and jute. In the fifties, metropolitan capitals sought and obtained a foothold in technologically intensive areas. The outflow on

account of royalties, technical fees, dividends and indirectly through transfer pricing, not only adversely affected the balance of payments, but also stunted the process of self reliant industrial growth.

One could ask why the private sector collaborated in joint ventures with multinationals. Firstly, given an effective demand pattern which was oriented towards sophisticated consumer durables and given the lack of indigenous research and development, foreign collaboration was imperative. Secondly, the government inexplicably, give preference to projects with foreign collaborations in granting import licenses (so long as the foreign exchange requirements were met). This policy instead of leading to technological absorption (through 'reverse engineering' and allied processes) led to technological parasitism. In this process, the total capital employed in branches of foreign companies and 'foreign controlled rupee companies' increased from 25.86% of the total capital employed in the entire private corporate sector in March, 1961 to 30.57% in March, 1965 (Patnaik, 1979) -- this excludes financial companies in both the numerator and the denominator.

(c) This pattern of industrialisation had a 'top heavy' character in terms of commodity composition -- M.R. Bhagvan claims that the weights of consumer goods, capital goods and intermediate goods in 1966 were 38%, 54% and 8% respectively; in terms of the sectoral allocation of workforce or a dent in the volume of unemployment, the strategy perpetuated the 'occupational stasis' which had prevailed in the Indian economy, practically from 1901.

To summarise: the Second and the Third Five Year Plans witnessed high rates of growth accompanied by only marginal changes in the organisational structure, growing indebtedness and technological parasitism. This was but a result of a strategy which based industrialisation on capital goods and luxury consumer goods which were both technology intensive and incapable of generating substantial employment, at any given level of investment.

The Mahalanobis strategy has been criticised on many counts -- its autarchic bias introduced through the capital nonshiftability assumption (and thus neglecting the transformation possibilities through exports), its rigid view of production (seen as "Accumulation + Consumption = Production") which ignored forms of investment which are closely allied to consumption, for its neglect of agriculture but not for its 'output maximising' approach which relegates employment to the background.

Both the 'surplus maximising' approach of the 'choice of technique' literature (which implicitly expresses the impotence of fiscal instruments in augmenting savings for maximising the rate of growth of output over time) and the 'output maximising' approach of Mahalanobis are in a sense optimality exercises which accept the existing social institutions as constraints. The problem of costless capital formation through mobilisation of surplus labour for rural projects has to be resolved within very different institutional arrangements --- and this changes the nature of the 'problematic' itself. Even Chakravarty while criticising Brahmanand and Vakil on this issue commented that "mere

availabilitiy of labour would not solve the problem of greater capital formation. Extra capital equipment would be needed and this would need to be produced at home or imported, hence raising the complex of issues raised earlier in connection with the Mahalanobis model" (Chakravarty, 1969).

These obviously maximalistic approaches single out maximisation of output/surplus for policy prescriptions. A look at the Chinese experience of rural industrialisation, often termed 'urbanisation' of the countryside, might prove instructive and shall be considered in a later chapter. At this point, one would just stress what Nurkse did -- the possibility of using surplus labour as the source for capital formation at very low social opportunity costs. China has been able to mobilise tens of millions (100 million annually from 1970 to 1976) on capital construction projects such as dam construction, irrigation and drainage, road construction, afforestation and terracing of fields. Labour wages were low and labour productivity was low too. However, by 1978, this process had led to extensive irrigation (approximately 45% of the land area), extensive electrification and mechanisation and a considerable chemical fertiliser capacity (109.2 kg./hectare of cultivated land in 1979) [Lippit, 1987]. Obviously even capital construction has to go beyond mere optimality exercises - the brittle nature of these technocratic exercises have to be supplemented by choices of political economy, and the Chinese choice in this sense, can be characterised as "walking on two legs".

It may be argued that the post-1978 reforms nullify Mao's earlier approach -- that economic management in the rural areas has moved from the third tier of the commune structure, the production teams, to what was the fourth tier, the household. Further, in the most common form of this system, the household contracts to deliver a certain level of output to the commune; anything above this quota can be freely disposed of in whichever way it pleases. Thus, these reforms might be interpreted as the seeping in of capitalism under the guise of incentive-compatibility. That would only be partially true. Apart from the fact that this decentralisation is only partial, this change from a "bureaucratic, dirigiste development" to a system tied to individual incentives may be a sequential logical shift once accumulation has reached a certain level, as a result of 'labour accumulation'.

On the other hand, in India, the first three plans witnessed the eclipsing of pioneer industries such as cotton and jute textiles while basic metals, engineering, chemicals etc. became dominant. The machinery index, which was 192 in 1955-56 (with 1950-51 as base) shot up to 503 in 1960-61, while the indices for cotton textiles for the same end-points and the same base are 128 and 133 respectively. In sectoral terms, agriculture continued to absorb roughly 70% of the workforce both in 1961 and 1971 while its share in the net domestic product had decreased to 42.76% in 1971 from 49.34% in 1961. The rate of growth of factory employment was a mere 2.9% per annum over the 1951 - 1968 period, barely outpacing the 'natural' growth of population in urban areas. Clearly, mass

consumer goods had not got the sort of fillip they would under a more 'balanced' (a la Bukharin) growth path.

This heavy industry based growth pattern faced two major obstacles -- a disproportionality between agriculture and industry, and a balance of payments problem (triggered off by the demand for capital goods and intermediate goods).

The disjunct nature of growth between agriculture and industry is evident from the rates of growth of the two sectors -- while agriculture registered a growth of 3.1% per annum over the 1950 - 1965 period, industry grew at a phenomenal 7% per annum, exceeding 10% per annum in some sub periods. In a backward economy attempting to modernise, precapitalist agrarian relations cannot but fetter growth. This takes place in three ways --

(a) A slow growth of agriculture can constrain demand, given that agriculture employs nearly 70% of the workforce.

(b) It supplies inputs for various agrobased industries such as cotton and jute textiles and food manufacturing industries such as sugar, vegetable oils and tobacco. And though the weight of the agrobased industries (in the index of industrial production) has shrunk from 44% in 1960-61, they still (in 1979-80) constitute roughly 33% of all industrial products.

(c) Finally, there is the 'wage goods' constraint (as Kalecki emphasised) because agriculture supplies the most important good in the wage basket -- food. A poor agricultural performance could thus thwart growth both directly and indirectly through an inflationary spiral which squeezes profits or forces the government to slash its investments given rising prices.

Why these constraints remained latent and did not impede growth in the pre '65 period is partly because of the pattern of industrialisation and partly because of the large imports of food under PL-480 which shored up supplies and held prices under check. After 1958, when agricultural growth started slowing down (and the foreign exchange position became precarious), despite food imports, food prices rose by 11% between 1958 and 1961 and by 31% between 1961-62 and 1964-65 (Abhijit Sen, 1982). However, in the Second and Third Plans, public investment was maintained as a matter of policy and this had considerable 'accelerator' effects on industrial growth.

2. Structural Retrogression


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This boom came to an end in 1965 -- largely through increases in defence expenditure after the 1962 Chinese war, the 1965 Pakistan war and the droughts of 1965 and 1967. The World Bank made the government accept the Bell Report and soon after the pressures of a foreign exchange crisis led to a 36.5% devaluation of the Rupee. The Congress lost the elections in half the states in 1967 and the directives of the Planning Commission were not treated as sacrosanct anymore. Not only the Rupee, but the planning process itself had been 'devalued'.



However, these were the contingent causes of the industrial stagnation from the mid '60s to the mid '70s. In structural terms, the explanations are somewhat more complex.

One set of arguments emphasises the limited size of the home market -- this includes sophisticated versions of Marx's

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'disproportionality' and 'underconsumption' arguments though obviously translated into India's concrete history.

The simplest of this set of arguments involves the exhaustion of import substitution possibilities by the mid '60s. By 1965-66, the share of imports in 'domestic availability', exceeded 20% in only 4 out of 20 industrial groups -- petroleum products (27.8%), basic metals (22.2%), non-electrical machinery (56.3%) and electrical machinery (27.7%) [Ahluwalia, 1985]. This reliance on intermediate products implied that economies of scale associated with them could not be utilised through the domestic market. However, in other final consumption goods, possibilities of substitution lay exhausted. Clearly, one needs to explore the dynamics of the home market more substantively.

Another argument in this set was a version of 'underconsumption'. Bagchi stressed the impact of a worsening income distribution on the composition of demand and thus on investment. Worsening income distribution leads to a demand for 'luxuries', which have limited 'backward' or 'forward' linkages and are unable to secure the economies of scale due to a narrow domestic market. This has squeezed out investment from sectors with higher growth potential. Nayyar, on the other hand, has focussed on the level of aggregate demand. He postulates that unequal income distribution leads to higher savings and thus low utilisation of capacity. Thus, there is a 'realisation problem'. To validate these arguments, one must rationalise the State's impotence in stepping in and toning up the level of economic activity.

TABLE 1 BARTER TERMS OF TRADE

Year	Barter Terms of Trade
1960-61	100.0
1961-62	100.7
1962-63	99.4
1963-64	97.4
1964-65	108.7
1965-66	114.5
1966-67	123.1
1967-68	125.0
1968-69	116.3
1969-70	125.7
1970-71	127.3
1971-72	120.1
1972-73	118.3
1973-74	137.0
1974-75	133.9

SOURCE: Thamarajakshi (1977)

A more cogent version of the underconsumption argument has been developed by Patnaik. In an earlier model, he argues that a deliberate shift in the terms of trade in favour of agriculture, given constant product wages, leads to a decline in 'real' wages i.e.

$\left(\frac{W}{P_I}\right) = \frac{W}{P_A} \cdot \left(\frac{P_A}{P_I}\right)$ where $\frac{W}{P_I}$ is the industrial product wage; $\frac{W}{P_A}$, the 'real' wage and $\frac{P_A}{P_I}$ are the terms of trade between agriculture and industry.

Given that the demand for food is inflexible downwards, there is a shrinking of demand for industrial products. Further, if the government steps in to stimulate demand, it would only lead to higher inflation; if this spending has a high wage component, an excess demand inflation results. The State, instead of pump priming, given underutilisation of capacity, is forced to curtail investment. Empirically, however, the terms of trade moved in favour of agriculture only between 1963-64 and 1967-68. Both the pre 1963 and the post 1968 phases witnessed fluctuating barter terms of trade.

In later years, Patnaik singled out the level of public investment as an explanation of stagnation. Before that, we must consider the basic supply side hypothesis.

Chakravarty uses the 'classical stagnationist thesis' for his version of stagnation. The basic 'classical' assumptions were that the wage rate determines the rate of profit and all profits get automatically invested -- if this were true, no effective demand problem would arise. Chakravarty's argument is essentially in terms of an agrarian constraint -- he sees the terms of trade shift in favour of agriculture as restoring the supply-demand balance for agricultural goods. In his view, a shift in the terms of trade

together with constant 'real wages' has led to rising 'product wages' and thus squeezed profits and adversely affected the inducement to invest.

Mitra uses a broader political economy framework -- he uses exactly the same argument but alleges that the terms of trade have been manipulated in favour of agriculture through constant hikes in 'procurement prices'. Thus, the 'atrophy' of the economy hinges on the political economy of the pressures exerted by an implacable landlord-rich peasant combine.

Statistical quibbling about using 'farmgate' or 'wholesale' prices as agricultural prices remains unresolved. Further, the terms of trade need to be located in a broader context including inter-sectoral net resource flows and the pricing pattern in an oligopolistic industrial structure.

3. Public Investment

Unlike the weak empirical foundations of the terms of trade argument, public investment clearly registered a fall in the 1965 to 1975 period.

Given that the pre 1965 growth phase has been characterised as 'public investment led growth', it becomes important to investigate the deceleration in its rate of growth in the post '65 period. There are three aspects to a slowdown in public investment:

(a) Its role as a generator of incomes and thus the 'lead' sector in the expansion of the home market.

(b) The slowdown in capacity creation in critical infrastructural sectors such as power and railways, as also irrigation.

TABLE 2

COMPOSITION OF PUBLIC INVESTMENT
(NET DOMESTIC CAPITAL FORMATION IN THE PUBLIC SECTOR)
1960-61 - 1980-81

SECTOR	SHARE IN TOTAL			GROWTH IN % PER ANNUM		
	1960-61 --1965-66	1966-67 --1975-76	1976-77 --1980-81	1960-61 --1965-66	1966-67 --1975-76	1976-77 --1980-81
1. Agriculture	12.4	14.0	16.7	7.9	3.0	12.0
2. Manufacturing	18.6	18.9	20.1	6.6	1.7	8.2
3. Infrastructure (Total)	36.1	28.8	32.1	16.7	2.1	8.3
a. Railways	16.6	7.1	4.6	12.5	-7.7	9.1
b. Electricity, gas & water	16.4	18.9	21.6	23.7	4.2	5.6
c. Mining	3.1	2.8	5.8	2.4	15.8	6.4

SOURCE: Isher Ahluwalia (1985)

(c) The slow rate of growth of public investment, itself symptomatic of a 'fiscal crisis' or 'inefficiency' in the utilisation of resources.

Given that infrastructural bottlenecks stunt the profile of industrial growth and that an agrarian barrier conceals an inflationary potential, the economy is naturally circumscribed by these two mutually reinforcing constraints.

However, public investment which could have been somewhat 'autonomous' of the short run has itself been stagnant because of the fiscal crisis faced by the State. Patnaik has argued that public investment in India is essentially financed through two sources -- indirect taxation which is regressive, and deficit financing which is inflationary and transfers resources into the hands of capitalists, traders and landlords. As early as the 'Bombay Plan', Indian capitalists had favoured the idea of deficit financing of public investment -- it was stipulated that 40% of public investment would come through deficit financing.

Now, if this process of 'primitive accumulation' had stabilised at some level, the system would adjust itself to it. However, if the State is bent upon increasing the private economic surplus through a reduction in direct tax rate, subsidies through the budget and other 'transfer payments', then given a cake which is barely expanding, its own investment and/or working class consumption is squeezed. Given the unionisation of the organised workforce, State investment is bound to get squeezed. If this increase in private surplus could be converted into public debt at will, it would have no impact on the commodity markets. However,

in so far as the surplus is inextricably linked to the product market via luxury consumption or speculation, public investment gets choked to stem inflation. Further, the economy wide savings rate is somewhat redundant in this scenario -- what is important is the savings that the State can generate itself. The savings which it can borrow are not a secure source of investment, because against such borrowing the private sector holds 'near money' assets which can be converted into commodities at a hint of unstable prices. Patnaik also argues that a rise in private economic surplus does not lead to productive investment; given that the growth rate itself has plummeted following reduced public investment. Increase in the private economic surplus marks a shift towards luxury consumption, capital flight, residential construction or growth in consumption of the retinue of 'yes men' maintained by landlords. The story ends with the public sector emulating private consumption, leading to further erosion of its own shrinking surplus for investment. Summarising: capitalist development in an economy fettered by precapitalist agrarian relations depends crucially upon the State to widen the market. The State is constrained both to increase the share of economic surplus going into the hands of the propertied rich and not exacerbating inflation through deficit financing. Thus, the State checks its investment which also restricts private investment.

There are two aspects of Patnaik's story which could do with stronger empirical corroboration --

(a) His insistence on deficit financed inflation as opposed to inflation arising out of an agrarian barrier (after the droughts of

'65 and '67 for instance, there was a 44% price rise between 1964-65 and 1967-68)

(b) Though public investment is certainly complementary to private investment in so far as providing key infrastructural inputs such as transport (railways), power and irrigation goes, it possibly 'crowds out' private investment in other sectors. This is particularly evident in the post 1965 and pre 1972 phase: the 'new agricultural strategy' did lead to private investment in agriculture; and the lifting of trade restrictions (as well as increasing inequalities) did lead to an increase in demand for 'luxuries'. Thus, though the level of demand continued to be low, its composition had changed and that did induce some private investment. However, the 'green revolution', though successful in wheat in some specific regions, did not improve the overall rate of agricultural growth and thus private investment in agriculture slumped by 1973. Further, the infrastructural constraints had, by 1973, damped private investment in 'luxury goods' too.

The composition in industrial output further corroborates the exact nature of public investment in sustaining industrialisation. The capital goods industries, together with 'basic' and 'intermediate' goods were the constituents of Nehru's 'temples of modern India' and had registered very high rates of growth till 1965. Now, that the strategy itself lay subverted due to structural and contingent crises, it was the 'consumer durables' category through which the private sector sustained itself. And to the extent that public investment was made in intermediate products such as steel, chemicals and power, it was funneled by the private

TABLE 3

ANNUAL RATES OF GROWTH OF REAL INVESTMENT
(1960-61 = 100)

PERIOD	GROSS CAPITAL FORMATION			GROSS FIXED CAPITAL FORMATION		
	TOTAL	PUBLIC	PRIVATE	TOTAL	PUBLIC	PRIVATE
1953-54 -- 1958-59	9.82	18.19	4.90	9.88	12.05	8.53
1958-59 -- 1964-65	8.71	11.57	6.79	7.59	13.13	2.90
1964-65 -- 1970-71	4.99	-0.10	9.41	4.03	-1.28	8.91
1970-71 -- 1975-76	2.04	8.55	-3.12	0.33	3.90	-1.56

SOURCE: Abhaji: Sen (1982)

TABLE 4 ANNUAL COMPOUND GROWTH RATE IN THE INDEX NUMBER OF INDUSTRIAL PRODUCTION

INDUSTRY GROUP	1951-55	1955-60	1960-65	1965-76
Basic Industry	4.7	12.1	10.4	6.5
Capital Goods Industry	9.8	13.1	19.6	2.6
Intermediate Goods	7.8	6.3	6.9	3.0
Consumer Goods Industry	4.8	4.4	4.9	3.4
a) Consumer Durables	-	-	11.0	6.2
b) Consumer Non-Durables	-	-	-	2.8
General Index	5.7	7.2	9.0	4.1

SOURCE: C.P. Chandrashekar (1987)

sector to luxury commodities and not capacity creation as intended. To put it another way, the private sector, even when 'finance constrained', made little capacity creating or employment generating investment.

There is yet another strand of criticism that the Patnaik-class of arguments have had to face -- one which votes for a gradual attrition of the public sector due to its alleged 'inefficiencies'. It is to this set of arguments that we now turn.

5. Public Sector

'Liberal' economists hold that the public sector is a mere guzzler of resources; is plainly inefficient as manifest through high incremental capital output ratios and has promoted corruption and clientilism in the garb of 'commanding heights' and other such rhetoric.

To begin with the public sector in the Mahalanobis strategy was to be established in the long gestation lag, key infrastructural and capital goods industries, which would anchor industry through supplying universal intermediates. These industries were characterised by 'indivisibilities' and the Indian market could not but sustain a few such units. Given the lumpy investments required and the narrow base of the Indian capital market, these investments would not be undertaken by the private sector. This was also the stage when 'physical planning' dominated 'financial planning' and profitability considerations did not appear very important. Thus, in the infrastructural sector, the State came to own more than 60% of all productive capital, 8 of the

top 10 units and employed more than two thirds of the workers in the organised sector.

The public sector has led to a diversified industrial base which has limited our reliance on imports and augmented the economy's skill base -- we now produce heavy electricals, petrochemicals and transport equipment. Besides, through its direct purchase of products from the private sector and through the income it generates, it has led to the expansion of the home market.

In agriculture, public investment in irrigation and other spheres has not only augmented growth directly, but also indirectly through 'crowding in' of private investment.

The public sector has been bludgeoned for two distinct but related causes -

(i) poor physical performance in terms of scarcities in sectors such as power, coal, transport equipment and railways;

(ii) poor financial performance reflected in low profitability and high capital output ratios.

Regarding its physical performance, three possible reasons could be given:

(a) Capacity utilisation in industries such as steel, coal, power and transport, which constitute the 'fuel-metals' complex is an interdependent process. These industries are highly complementary to each other and cannot be efficiently run unless their planning and operations are coordinated over time and space. Apart from coordination problems, capacity utilisation could be low because of demand constraints -- there was a fundamental mismatch between capacity created in the early '60s and demand in the '70s.

(b) By 1965, steel, engineering, chemicals, petroleum, mining and minerals and aviation and shipping absorbed more than 90% of the total public investment. These industries can be productive only if capacity utilisation is high and for the latter, the overall rate of growth of investment demand must be high. The cutback in public investment sent these industries into a tailspin, through the 'accelerator' mechanism in reverse. There was an obvious need to step up public investment, diversify products and reorient some production towards exports.

(c) In so far as managerial decisions hamper utilisation of capacity, there is obviously a need to delicately balance 'autonomy' and 'accountability'. Excessive politicisation has led to ad hoc appointments of senior executives, and they treat the public sector as a source of personal enrichment.

When we consider financial performance, it is clear that profitability was not given due consideration during the Second and Third Plans. Indifference to profitability was often rationalised through the argument that an increase in the price of 'universal intermediates' leads to inflation. If the cost of production cannot be reduced, then the alternative to an administered price hike is a budget subsidy, which results in deficit financing and thus inflation. The choice between an administered price hike and deficit financing is capricious: both handicap the economy through inflation.

The need to supply infrastructural inputs at extremely low margins is indeed justified in a macroeconomic sense -- however, this margin could easily turn into a loss due to overmanning or

'inefficiency', or if input costs rose faster than administered prices of output.

'Efficiency' is a tricky concept -- one must distinguish between at least three possible senses in which the term is used --

(i) 'Static' or operating efficiency: in terms of either a 'scalar' like prices (with the international prices as the shadow price) or more appropriately a 'vector' of yardsticks which could include capacity utilisation, energy consumption etc.

(ii) 'Dynamic' efficiency: the ability to innovate both products and processes.

(iii) 'Social' efficiency: the social valuation of goods and services produced.

Let us consider dynamic efficiency. Apart from usual arguments like Verdoorn's law (which asserts that with a higher rate of growth of output, both productivity and employment increase at a faster rate), it must be acknowledged that planning investment in a technologically complex and changing world is a bit of a gamble. Veblen had argued about the advantages of being a 'latecomer' in technology -- his argument relies not only on spillovers of knowledge, but also the fact that investment may be irreversible: a fact which gave Germany distinct advantages over England in the latter half of the 19th century.

In a world where technology changes rapidly and involves increasing returns to scale (and thus large investments), investment decisions are difficult compared to those that obtained in 19th century Europe. In India, 'tied aid' during the '50s and the '60s prevented the acquisition of the most efficient capital

equipment in a number of areas. This initial import of relatively obsolete technology, together with a sheltered and narrow domestic market, resulted in low investments in research and development both in the public and the private sectors. Instead of importing 'designs' and then 'adapting' them to domestic conditions, technological dependence was perpetuated through the import of 'products'. With rapidly advancing technological frontiers, the heart of the problem manifests itself through the inadequate 'absorbtion' of imported technologies.

Dynamic 'inefficiency' has led to some forms of static inefficiency. Overcapitalisation of projects has followed inadequate budgetary allocations, which in turn is a manifestation of the already discussed 'fiscal crisis'. This is aggravated through the protracted bargaining which goes on with the aid donors, resulting in delays in the commissioning of projects and cost escalation through poor design, lack of standardisation and absence of spare parts. Further, there has been inadequate maintenance of plant and machinery in thermal and fertiliser plants.

The public sector, it is true, has not been free from the sort of pulls and counterpulls which beleaguer the budget. The State aids capital by developing a physical and financial infrastructure -- influence peddling is but a natural corollary through which it seeks to placate classes which might sabotage the status quo. This sop to the working class might result in overmanning as well as featherbedding through inflated payrolls. One would suggest that in infrastructural sectors such as steel, power and transport and

TABLE 5 LABOUR PRODUCTIVITY OF INGOT STEEL PER MAN YEAR EMPLOYED
ESTIMATED ON THE BASIS OF ANNUAL STATISTICS OF PLANTS
(UNIT: TONNE/MAN YEAR)

PLANT/COUNTRY	Specific Energy Consumption in Giga Calories per tonne of Ingot Steel in 1976 - 1977	Labour Productivity: Ingot Steel per man year employed in works only. Unit: tonnes/man year (1981-82)
Bhilai	6.199	66.14
Rourkela	7.604	46.33
Durgapur	7.621	31.98 (in 1980-81)
Bokaro	6.606	72.71
IISCO	11.815	24.51
Japan	5.00	331.19
U.S.A.	6.50	322.40
F.R.G.	5.50	270.20
U.K.	6.25	122.40

Note: 1. Labour productivity figures exclude labour employed in general administration, township etc.

2. Energy consumption upto Ingot stage only.

SOURCE: Ramprasad Sengupta (1988)

communication, imports should be permitted in the short run if they can lead to a substantive reduction in the incremental capital output ratio and thus lead to significant savings for the economy as a whole. However, in the long run, forming our own technological base and developing design capabilities in sectors such as chemicals and fertilisers is imperative. Further, 'scale factors' must not be ignored in designing; and adequate maintenance and replacement of equipment would prevent the economy from being transformed into a high cost economy.

Take steel for instance. The emphasis on physical planning has oriented the plants more towards tonnage than towards the pattern of market demand -- clearly the planners did not pay heed to a diversification of the product mix in a multiproduct industry. Further, the policy of pegging prices at a low level (even if at a cost plus basis) has led to the paucity of investible resources for modernisation. This has not only led to an emphasis on production rather than factor productivity but also a very high energy consumption per tonne of steel.

To put it another way, the public sector is obviously not autonomous of the strategic decision making by private agents -- that the 'relative autonomy' of the State is severely constrained in a mixed economy idiom was not adequately perceived by the early planners. The above critique is thus not a vote for privatisation, but one for greater cognizance of the nature of 'primitive accumulation' in a mixed economy.

4. Incremental Capital Output Ratio

The other supposed manifestation of agents grabbing rents through scarcities is the secular rise in the incremental capital output ratio. The incremental capital output ratio can be thought of as a one factor production function -- such simplification obviously brushes numerous conceptual issues under the carpet.

Statistically, it is not clear whether one should use NDP or GDP as the measure of output -- economists have reached a consensus about using GDP only because assumptions about depreciation are fairly arbitrary. The average asset life-span as well as the decline of asset values over time are the two factors which determine capital consumption -- neither can be determined with any degree of accuracy.

As far as investment is concerned, again there exists a choice between using gross investment and net investment (where $\text{Gross Investment} = \text{Net Investment} + \text{Replacement Investment}$). Replacement investment is a bit of a conundrum -- it is sensitive to time patterns of decline in investment capacity, length of asset life and allowance has to be made for changes in the average productivity of investment.

There is also an index number problem -- whether incremental capital output ratio should be calculated at constant or current prices. Differential rates of price changes of capital goods vis-a-vis output obviously distorts the incremental capital output ratio. Further, there is the problem of time structure -- output is not generated as soon as investment expenditure is incurred: gestation lags in the production process have to be accounted for.

Finally, the incremental capital output ratio has to be disaggregated by sectors if it is to be used as a tool for policy.

It has been argued that while gross domestic savings has risen from 9.5% in 1951-52 to 23.4% in 1979-80, the rate of growth of GDP has not displayed similar acceleration. The 'Working Group on Savings' headed by Dr. K.N. Raj has contested this figure -- partly because the increase was transitory and partly because it inflates the capacity of the economy to add to capital stock.

When year to year fluctuations are eliminated and both 'Gross Domestic Capital Formation' and 'Gross Domestic Product' series are estimated at 1970-71 prices, the 'Gross Fixed Capital Formation' is quantified as 18% of GDP in the closing years of the '70s -- no higher than in the mid '60s but substantially higher than the mid '50s figure of 11%.

K.N. Raj has attributed this rise in the value of Gross Fixed Capital Formation to the fact that the price index of capital goods has risen much faster than the GDP deflator and it is primarily due to this, that the incremental capital output ratio has increased from 3.5 between 1951-52 -- 1959-60 to 5.55 between 1970-71 -- 1979-80. Further, as W.A. Lewis had observed, infrastructural costs escalate sharply in periods of intensive urbanisation.

Chakravarty has sought the causes for the increase in incremental capital output ratio in the shifts of investment to the energy sector. The energy sector is extremely capital intensive everywhere but particularly so in India due to the poor quality of resources such as coal. However, a rising energy demand conceals a change in the structure of the economy. Agriculture has become far

more energy intensive in the '70s and the '80s vis-a-vis the 'extensive cultivation' days of the '50s and the '60s. This includes not only power consumption in irrigation, but also diesel oil for tractors and pump sets as well as oil based NPK fertilisers. The following figures are indicative of the trend:

(a) The input output coefficient in agriculture has risen from 0.197 to 0.275 over 1970-71 and 1981-82 (in value terms).

(b) Further, energy related inputs (bought from 'commercial sources') constituted 40.3% of the total value of inputs in agriculture in 1981-82 --- the figure was only 16.4% in 1970-71.

Clearly, the 'block triangular' character of the inter-industrial matrix has been invalidated -- agriculture demands a much larger intake of industrial products, compared to the early '50s and '60s, to maintain the same rate of growth of final consumption.

While agriculture has undergone a rapid technological transformation based on large imports (and domestic production) of fertilisers, crude oil and oil based products, industry has not demonstrated any significant increasing returns. We have already discussed 'soft' budget constraints in the public sector -- let us now turn to the private sector.

6. Private Industry in a Mixed Economy

An attempt to provide a reticulated picture of the Indian private sector must begin by identifying the 'business group' as the representative unit of Indian capital. This 'group' operates in a large number of related and unrelated areas through legally independent companies -- though decision making is centralised.

Even in 1964, except for food products, cotton textiles and jute textiles, Indian industry was dominated by monopolies, duopolies and oligopolies. More significant, however, is the fact that the same few units of capital dominated most areas of industry -- given their technological and product diversification, the scope of using an effective 'carrot and stick' policy (through concessional loans and actual capacity creation in specific industries) was easily scuttled. Hazari found that out of 22 basic categories of actual business, the Tatas as a group were present in 21, the Birlas in as many, the Bangurs in 19, Thapars in 15, J.K. in 18 and Shriram in 7.

In an era of physical planning, licencing was the prime instrument through which inter-industry targets were to be balanced. Given their financial strength, the large business houses captured a large number of licences in almost all areas of activity. However, these licences were not necessarily translated into capacity. A two-pronged strategy was followed -- establishing capacity and aggressive bidding for market leadership in areas where demand was rapidly expanding and/or profit margins were high. However, almost ritualistically they obtained licences in low profit, slack demand spheres of industry too -- where they did not establish capacity. Through these Byzantine intrigues, not only was effective monopoly preserved in almost all areas, but capacity creation was preempted in spheres which were dormant in terms of profits and/or demand.

The impact on inter-industry balances attempted through licencing was clearly thwarted -- further, investments were made in

response to market signals, despite the licencing system. It was the State sector which was residual in the economic system, not the private sector. Private investment flowed into industries which were lucrative in terms of profit and sustained demand i.e. manufactured consumer goods including durables. On the other hand, industries such as cotton textiles were drained of much needed funds for technological upgradation or simply maintenance.

The immediate impact was that productive capacity fell short of demand in many areas, leading to a thriving black market. Stricter scrutiny of license applications and 'overlicensing' further marginalised the licensing procedure, as the number of preemptive applications correspondingly increased.

In spheres where the State attempted to control prices, the response was to 'choke off' production. Thus, in products like cement, sugar, textiles and paper where the State attempted to control prices, the 'business houses' not only preempted entry by grabbing licenses but also failed to set up capacity: this maiming of policy led to acute scarcities as well as covert selling in black markets. The State was outmanoeuvred into renegeing controls, either partially or fully. This is best exemplified in the cement industry which faced persistent shortages till prices were controlled, and is facing a glut after price controls have been withdrawn. Thus, it was not this caricature of the licensing procedures which left private enterprise floundering -- organised large scale industry responded to market signals, particularly in areas where profit margins were high.

Even in areas where they did invest, such as consumer durables, demand was fickle, growing and increasingly characterised by 'international demonstration effects'. The fragmentation of capacity was not caused by licensing but because of the dispersion of investible resources over a large number of areas.

International competition was precluded through government policy, domestic competition through 'barriers to entry' because of licensing -- the market was simply not 'contestable' (in Baumol's sense). Risk spreading led to suboptimal scales: numerous small units sprung up in areas such as synthetics, plastic intermediates, automobiles and electronics.

Take the medium technology sector of the electronics industry for instance. In contrast to 'advanced' electronics products like advanced semiconductors, computers and telecommunication equipment, 'design' improvement in the medium electronics industries (such as 'colour television') have been incremental rather than quantum. As such, 'efficiency' in this sector is based upon production planning -- the most important element of which is an appropriate scale of production. The industry is not old in India (thus the need to 'junk' capital is limited), and the largest firms produced 50,000 to 60,000 sets every year. An attempt has been made to rationalise production further through the import of 'completely-knocked-down' kits.

However, costs have not been slashed fast enough and demand for colour televisions has stagnated; it may not pick up unless further investments in transmission infrastructure are made. Secondly, Indian firms have been importing 'product' technology

rather than 'design' -- absorption of technology remains limited. Finally, large business houses, such as NELCO of the Tata group has not made any major moves. The industry may soon find itself enmeshed in a small scale trap -- high prices and limited investment in infrastructure, limits the demand for the product. Given limited demand, colour television manufacturers tend to be vertically integrated instead of 'subcontracting' for components -- which apart from checking the growth of the components industry leads to high costs of components. Finally, given the uncertainty of market size and lack of clearcut government policy, there is a proclivity to diversify rather than reap the economies of scale in a particular line of production.

In South Korea, in contrast, production is concentrated in three major conglomerates (Gold Star, Samsung and Daewoo) which produce more than a million units a year. The Korean government insulated the market from foreign competition; production took place without any technical or financial collaborations. Further, the profits from T.V. production were invested in high risk 'advanced electronics' sectors such as semiconductors; technical and organisational experience gained through T.V. manufacture has been transferred to more sophisticated products like personal computers and video tape recorders.

In India, this is not the whole story though. MRTP companies often use small scale industry as a front and this leads to further fracturing of capacity (due to various concessions given to small scale industry). Further, small scale industry has often entered areas where it has neither technological competence nor scale

advantages: this, just because large industry has not been willing to sustain anything less than 'target' profit margins. If one is not willing to invest in an industry with low profits, that industry dies even if it is a mass consumer good industry. Thus, on the one hand, one has sickness in industries like cotton textiles, sugar, jute and certain engineering sectors while on the other hand one has a booming market for synthetic textiles and motor cycles.

The political economy of industrialisation in India has indeed been affected by State intervention -- however, it has defined the 'field' and 'scope' of private enterprise rather than detailed micro level particularistic intervention as in South Korea. Given that the State holds more than 25% of the paid up stock of private joint stock companies, it could have precisely determined the quantum, direction and nature of private investment. This could be due to the fact that the 'non-negotiable' claims (on which no compromise is possible) made on the State by the ruling coalition severely restricted its ambit of operation. Decision making has been ad hoc -- often plants of uneconomic scales were licensed. Further, uneven regional development, led to fragmentation of capacity because suboptimal scaled plants were located throughout the country. In industries characterised by increasing returns to scale licensing led to 'rent seeking' by large business houses as also cost escalation due to cumbersome delays.

To summarise: planning in a backward mixed economy is inevitably fettered -- not only does landlord capitalism based on technological inputs thwart the impulses of industrial growth

(apart from leading to lopsided development) but the very process of industrial growth, based on public investment, is checked because of the zero sum nature of strategic interactions between capital and State.

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CHAPTER 3POLICY IN THE EIGHTIES1. Introduction

It was roughly during the mid 70's that the Fifth Five Year Plan was formulated - in its draft form, its stated objective was to work out the intersectorally consistent growth rates of output which would enhance the per capita consumption of the lowest three deciles of the population above the poverty level. This was to be achieved within five years, with no net aid at the end of the fifth year. The exercise demonstrated that poverty reduction, with a growth rate of 5.5% per annum, demanded a slower expansion of the luxury goods sector (that which catered to the demand of the top two deciles). Agriculture would have to grow at 4% per annum while the 'heavy' and 'intermediate' sectors would also have to record high rates of growth, the latter probably because 'food' and 'fuels' had emerged as the leading sectors given the droughts of '65 and '67 and the oil price shock of 1973. It also demonstrated that the vector of goods produced by the market would be suboptimal if the "basic" needs of the bottom 30% of the population were to be met. Further, redistribution should be focused upon through -

(a) augmenting the productivity of small and medium farmers, particularly those engaged in foodgrain production and

(b) emphasis on employment generation schemes in backward rural areas.

The former would ensure a sufficiently high rate of growth of foodgrains production, the latter would lead to the dissemination of purchasing power in more hands. Neglecting either of these objectives would cause a fundamental asymmetry.

The mid 70's also witnessed structural changes in the economy-
 (a) the growth rate of the economy revived to a 3.99% per annum between 1977-78 and 1983-84 compared to 3.56% between 1970-71 and 1977-78. Further within industry :

TABLE 6:

(percentages per annum)

(1970-71 = 100)

	1951-52 - 1964-65	1964-65 - 1974-75	1974-75- 1984-85
net manufacturing value added in the registered manufacturing sector	7.88	3.6	5.18

SOURCE: Annual Survey of Industries

Table 2 uses the 'new' index of industrial production with 1980-81 as the base. This was devised apparently because the old index (1970-71 = 100) did not give adequate weight to emerging industries such as chemicals, petrochemicals, garments, gem-cutting and electronics while attaching too large a weight to industries like mill produced textiles which now lay enervated. Further, it did not recognise that the small scale sectors had created its own niche in industrial production. This obviously creates index number problems: the 1980-81 index of industrial production shows up a 7% rate of growth for the six years ending 1985-86 while the Annual Survey of Industries with a 1970-71 base (Table 1) registers only a 5.18% increase per annum between 1975 and 1985.

TABLE 7 TRENDS IN INDUSTRIAL PRODUCTION
(1980-81 = 100)

ITEM	1981-82	1982-83	1983-84	1984-85	1985-86
Mining & Quarrying	117.7	132.3	147.8	160.8	167.5
Manufacturing	107.9	109.4	115.6	124.8	136.9
Electricity	110.2	116.5	125.4	140.4	152.4
General Index	109.3	112.8	120.4	130.7	142.1

SOURCE: C.P.Chandrashekhar (1987)

Within manufacturing, "chemical based" industries (such as synthetic textiles, plastics and pharmaceuticals) or "metal based" industries (such as automobiles, electrical appliances and television sets) overwhelm "agro based" industries (such as cotton and jute textiles, paper products). Chakravarty has observed that the ratio elasticity of GDP with respect to manufacturing declined elasticity of GDP with respect to agriculture from 2.1888 between 1950-51 and 1950-60 to 1.7597 between 1970-71 and 1983-84.

(b) The sectoral growth rates using National Accounts Statistics (Patnaik, '87) can be decomposed as in Table 8: *(See the next page)*

The "material producing" sectors thereby hardly witnessed any growth. Further, while the agriculture-dependent population grew at 1.8% per annum between 1977-78 and 1983-84, the Net Domestic Product at constant prices originating in agriculture increased at an annual rate of 2.1% i.e. the per capita NDP of agriculture increased by 3% over a 13 year period (Dandekar claims that the gross consumption of foodgrains per capita per annum has been practically stagnant from the 1954-58 period at 180 kg. per capita per annum). Further, the mid 70's also witnessed a shift in the terms of trade against agriculture.

Let us look at the growth pattern in industry during the 80's. What are the analytics of what clearly appears to be "consumer-durables-led" growth? Located in the global context, recessionary conditions in the metropolitan countries would clearly lead metropolitan capital into coercing Third World countries to "open up" their economies. In this struggle for economic space,

TABLE 8 SECTORAL GROWTH RATES
(Percentage per annum)

SECTOR	1970-71	--	1977-78	1977-78	--	1983-84
Primary			2.3			2.1
Secondary			4.41			3.52
Tertiary			4.87			6.52
a: Private			3.65			4.00
b: Public			6.95			9.83
c: Public Admin. & Defence			6.4			11.7

SOURCE: Prabhat Patnaik (1987)

TABLE 9 RATES OF GROWTH OF USE-BASED GROUPS OF INDUSTRIAL PRODUCTION
(1980-81 = 100)

INDUSTRY GROUP	WEIGHT	1981-82	1982-83	1983-84	1984-85	1985-86
Basic Industry	39.42	10.9	7.0	6.0	11.1	6.8
Capital Goods	16.43	6.7	3.7	11.7	3.0	10.6
Intermediate Goods	20.51	3.7	1.0	9.8	9.7	7.5
Consumer Goods	23.65	13.8	-1.6	1.6	7.2	12.5
a. Consumer Durables	2.55	10.9	9.1	16.1	21.6	18.7
b. Consumer Non-Durables	21.10	14.1	-2.8	-0.4	5.1	11.5

SOURCE: Economic Survey (1987-88)

metropolitan capital uses its instruments like the IMF and the World Bank or embeds "liberalisation" in the aid offered.

However, there were domestic compulsions too. The state engineered expansion of the pre 1965 years had come to a grinding halt due to the fiscal crisis faced by the State. The "classic profit inflation" phase of 1965 to 1975, not only squeezed real wages but led to increasing inequality between regions as well as classes. Domestic capital faced some sort of 'realisation crisis' and wanted to shift into spheres where pent up consumer demand existed - televisions, consumer electronics and automobiles. Further, to gain a foothold in markets abroad, it needed to collaborate with metropolitan capital. Finally, "international demonstration effects" had clearly altered the tastes of the Indian upper middle and rich classes towards consumer durables - there was an enormous pent up demand for consumer durables.

It is this combination of pressures which has induced the State to launch its "new economic policy" (measures discussed later). However, the fuel of this non inflationary deficit financed growth has come through the buffer stocks held by the central government. The question obviously arises - with the per capita NDP of the agriculture-dependent-population remaining virtually unchanged, and with the per capita food production of the agriculture dependent population increasing only marginally, why should public expenditure in public administration and defence not lead to a Kaleckian food inflation, a depletion of accumulated food stocks and a shift in terms of trade in favour of agriculture?

Patnaik's (1987) answer lies in the lopsided nature of agricultural growth, accentuated in the post Green Revolution period. This strategy which has preserved land monopoly has sought to transform erstwhile landlords and some of the larger tenants into capitalist farmers. This "betting-on-the strong" has succeeded in States (or regions) where infrastructure (in terms of irrigation) already existed (before 1947) and where the holdings were not microscopic - as in Darling's "canal colonies" of Punjab and Haryana. These conditions would obviously not hold in the eastern part of the country where population induced land hunger not only led to penny-sized land holdings but also usurious precapitalist ground rents. The technological package of Borlaug seeds and chemical fertilizers was adopted in Punjab, Haryana and Western U.P., with the State providing both concessional credit and infrastructural facilities like irrigation and power. In the east and most of the south as well as west, not only was the State more tightfisted (in providing credit and irrigation), but also high precapitalist ground rents and fragmented holdings checked the spread of the Green Revolution, except in a few isolated pockets.

The overall stagnation in the per capita Net Domestic Product of agriculture thus conceals regionally divergent trends: in a number of States, the per capita Net Domestic Product of the agriculture dependent population has actually declined, while in a few States, there has been a sustained and significant increase in per capita NDP. In the impoverished regions, the consumption of foodgrains is restricted by the relative pauperisation of the agriculture dependent population - in the surplus States, increase

in per capita income has led to an increase in the marketable surplus as well as consumption patterns which veer away from food - in conformity with Engel's elasticity for food.

This accumulation of foodstocks is thus "malnourishment induced" - further, it has facilitated non-inflationary deficit financing. The terms of trade shift against agriculture from 1971 (aggravated since 1975, see Table 1) is the other part of the "recovery" story.

There has been an increase in savings - from 16.8% in 1970-71, it increased to a 22.1% in 1983-84, peaking at 24.7% in 1978-79. This increase in savings is clearly a corollary of 'regionalisation' of growth as well as the shift in the terms of trade against agriculture.

A shift in the terms of trade can be interpreted to have this peculiarly paradoxical impact on agricultural labour - when the terms of trade shift in favour of agriculture, a higher price of foodgrains leads to a decline in product-wages within agriculture; when the terms of trade shift against agriculture, landlords pass on the losses due to the adverse shift on to agricultural labour. Further, private savings in the urban areas gets a fillip and together with a higher propensity to save in areas where growth is centred, public investment rises. This rise in public investment from the mid 70's, which went primarily into the energy and infrastructural sectors, has also created a "labour aristocracy" within the public sector.

Within the organised sector, NDP (deflated by the general NDP deflator) grew at an annual rate of 5.4% between 1977-78 and 1983-

TABLE 10 PARTICIPATION INCOMES PER WORKER
(Rs. Per Capita, 1970-71 Prices)

YEAR	Organised Sector Compensation to Employees		Compensation to Employees in the Unorganised Sector	All Incomes in the Unorganised Sector		Share of Compensation of Employees	
	Public	Private		Agr.	Non-Agr.	Agr.	Non-Agr.
1970-71	3581	4655	1127	1073	1552	22.4	42.9
1971-72	3677	4295	1121	1048	1567	24.9	42.1
1972-73	3615	4463	972	982	1502	21.4	42.2
1973-74	3473	3930	896	1133	1487	17.7	38.5
1974-75	3631	3725	835	1013	1539	17.2	37.0
1975-76	4296	4357	974	998	1801	21.0	37.2
1976-77	4372	4731	997	990	1817	22.1	37.4
1977-78	4453	4979	1129	1067	1941	24.8	38.5
1978-79	4599	5223	1133	1033	1903	26.0	38.1
1979-80	4501	4958	1065	911	1816	28.1	36.8
1980-81	4843	5054	1066	1035	1945	23.0	36.7
1981-82	4952	4954	1078	1001	1980	23.9	36.3
1982-83	5290	5738	1084	974	1999	23.4	37.4
1983-84	5477	5913	1124	1124	1998	21.2	37.1
1984-85	5945	6300	1058	1027	2005	19.3	38.1

SOURCE: Abhijit Sen (1987)

84 against a rate of growth of workforce of 2.8% per annum in the same period. Even though the share of wages decreased from 72% in 1970-71 to 67% in 1983-84, there was clearly a rise in the per capita incomes of the organised sector - this being far more pronounced for the public sector vis-a-vis the private sector. The public sector workers more than doubled their income between 1960-61 and 1984-85, with a sustained increase occurring after the mid 70's (a 66% rise since 1970-71).

These incomes as well as higher profits in the private organised sector have fuelled the "luxury-commodities-led" growth of the 1980's - a growth divorced from agro-based industries, a growth which locates its impulse in import intensive manufactures. The transition has been characterised from one of a profit inflation that squeezed real wages to one of income deflation in agriculture, the latter sustaining a non inflationary increase in urban demand.

2. THE AGRARIAN LINK

The hiatus between agriculture and industry is often traced to the 'Primitive Socialist Accumulation' debate between Preobrazhensky and Bukharin. In the wake of the "New Economic Policy" in the 1920's, while agricultural production had recovered to pre-war levels, industrial production lagged far behind. There was a substantial increase in demand for industrial goods which was not matched by industrial capacity. Preobrazhensky emphasised that "maintaining the equilibrium between the marketed share of

industrialisation and agricultural output at pre-war proportions....means sharply upsetting the equilibrium between the effective demand of the countryside and the commodity output of the town". A large increase in investment was required, which would be directed towards capacity-expanding heavy industry. Now this investment would come from the surplus of the industrial sector itself, from exploitation of colonies or from the agricultural sector. The first path had definite limits given the minuscule size of industry, the second was not an option at all, apart from being morally reprehensible. Thus, the agricultural sector was to bear the burden of increased investment and this was to be achieved through turning the terms of trade against them. The instrument of 'unequal exchange' would be the State trading companies - they would buy agricultural goods at a low price and sell industrial goods at higher prices.

Bukharin argued that such measures would rupture the 'smytchka' (the worker-peasant alliance) and at any rate the poor peasantry constituted only 19.4% of the rural population wherein the power and the ideological grip of the kulaks was entrenched. More fundamentally, the peasants could always withdraw from the market altogether - an option which Alexander Ehrlich has labelled "Preobrazhensky's dilemma". Further Bukharin added, 'we must take care not to diminish the powers of absorption of the home market, but to increase these powers. This is the most important point'. Rykov, in supporting this position, stated, "There are many capital outlays which must be postponed until such time as industry has won

the possibility of increasing its revenues on the basis of an extended peasant market and increased mass production."

The debate ended with Stalin's collectivisation drive - at one stroke the needs of accelerated industrialisation, such as transfer of investible capital funds together with marketed surpluses of agricultural products and a flow of rural labour to urban State industry, was accomplished. Collectivisation, together with mechanisation, not only broke the stalemate between the kulaks and the State, it was a sufficient condition for the formal 'proletarianisation' of the peasantry as well as 'commoditisation' of surplus. The important question really is, "Was it necessary for an agrarian transition to socialism?"

Any socialist agrarian transition in the third world context must not see the rural sector as an object of exploitation through primitive socialist accumulation or as the 'bargain sector' for that matter - the rural sector is really the object of socialist development, given that the bulk of the population earns its livelihood through it. It is necessary that the economy maintains two balances (Ashwani Saith) -

(a) Employment balance: The rate of growth of the economy must be high enough to absorb net additions to the labour force.

(b) Food balance: The rate of growth of food supply must feed the additional population at old levels and also meet the extra demands set up by the rising per capita incomes.

It is in this context that the Indian agrarian strategy in the post-independence period needs to be evaluated. Technocratically speaking, Indian agricultural growth has been divided into two

TABLE 11 RATES OF GROWTH IN AGRICULTURAL PRODUCTION
(Percent per annum)

YEARS	AREA	YIELD	OUTPUT
1949-50 -- 1964-65	1.6	1.3	3.1
1967-68 --1984-85	0.4	2.0	2.7
1967-68 --1984-85(*)	0.3	2.2	3.0

(*) :Rate of growth of cereals

Note:Area and yield do not exhaust the growth of output.
Some growth occurs because of a shift to higher valued crops.

SOURCE: Sukhamoy Chakravarty (1988)

periods -: 1949-50 - 1964-65 and 1967-68 - 1984-85. In the first phase agricultural production witnessed an annual growth rate of 3.1%. It has been characterised as the "extensive cultivation" phase - the increases in yield, marginal as they were, occurred due to State aided irrigation (the ratio of net irrigation area to net sown area increased from 17.6% in 1950-51 to 19.3% in 1964-65) and through slight increases in cropping intensity.

It was the two successive droughts of 1965 and 1967 which amply demonstrated that agriculture could no longer be treated as a Soviet-type "bargain sector" for funding industry. The possibilities of increasing cultivated area were limited, the effectiveness of regional crop specialisation even more so and the liturgical incantations of land reforms notwithstanding, the accent shifted towards augmenting productivity through Borlaug seeds, chemical fertilisers and irrigation - the package termed the "Green Revolution". Between 1967/68 and 1984/85, agricultural production recorded a growth of about 2.7% per annum, within which cereals recorded an annual growth of about 3%. Yield increases in cereals were as much as 2.2% per annum while the growth in area was only 0.3% per annum. Foodgrain production had increased from 55 million tonnes in 1949-50 to around 152 million tonnes in 1984-85, registering an annual growth of 2.9%, exceeding the 2.2% annual growth of population in the same period.

The same picture can be viewed from the other side - the skewness revealed in cropwise, regionwise and social classwise concentration.

The unevenness in cropwise growth has been manifest in the growth rates of foodgrains and non-foodgrains. While foodgrains (and within this category, wheat in particular) experienced a rate of growth of 2.68% per annum between 1970/71 and 1983/84, nonfoodgrains like oilseeds and fibres witnessed significantly lower rates of growth in the same period - 1.31% and 2.09% per annum respectively. The biochemical technological package for nonirrigated crops such as coarse grains, pulses, oilseeds and fibres has clearly not made any headway, and no high yielding varieties have evolved. This imbalance in the product mix of agriculture has led to the agriculture-industry dissociation in terms of a decline of agrobased industries such as cotton and edible oil production; further, cyclical instabilities in the production of important commercial crops such as cotton, jute and sugarcane affect not only the incomes of farmers but the capacity utilisation of associated agro-based industries too.

Even in rice, the cloud-blanket in traditional paddy growing areas together with the inherent problems associated in achieving effective water control during the kharif season, limits the experimental potential of high yielding variety seeds. And it is on controlled irrigation that the technocrats pin their hopes for a breakthrough in production and productivity in the eastern regions of the country.

Let us delve somewhat more deeply into the dynamics of the irrigation process. Irrigation can be decomposed into the timing of water supply as well as the volume of water supply in accordance with the need of crops. Ground water, in the above sense, is an

obviously superior source of water supply. It is well known that States with known ground water potential (Bihar, Orissa, Eastern Uttar Pradesh) have been tediously slow in exploiting this source while States in north west India and the south (such as Tamil Nadu) are rapidly depleting their ground water reserves. Surface systems, which still account for the larger fraction of irrigated area, are not technically or organisationally malleable enough to provide controlled irrigation of the sort needed for HYV-fertilizer combination. The control of water in such systems during the monsoons, which coincides with the kharif season, is inherently difficult. During rabi, control is easier, but the proportion of area irrigated limited.

Further, public investment in land water management, apart from accentuating existing inequalities between States, has often been infructuous. Far too many projects have been undertaken without adequate appraisal and the surface systems which have been laid often do not have complete distribution channels. The government has relied on the bureaucracy for surface water systems and extends support to private enterprise in ground water systems. The former has not been too effective while the latter has accelerated the indiscriminate use of a scarce resource, apart from creating "waterlords".

The polarising impact on regions and classes following the new agricultural strategy can be integrated. Lenin had enunciated two paths of development of capitalism in agriculture - the "Junker" road where the large precapitalist estates undergo a metamorphosis into capitalist enterprises, retaining not only extensive

landholdings but also the system of control over agricultural labour. In this model, capitalism matures at an exceedingly slow pace and aspects of pre-capitalist relations such as "labour rent" persist for long periods. The other path, labelled the "farmer path" was characterised by a revolution led by the peasantry which destroys the large landed estates and the relations of servitude. The process of differentiation of the peasantry is rapid, and the capitalism which emerges is unfettered by the remnants of precapitalist relations.

It would be wrong (as well as simplistic) to term the trajectory Indian agriculture has followed as the "Junker" road. Land reforms in the post-independence phase led to the partial dispossession of land owning intermediaries whose place was taken by erstwhile rentiers, rich peasants and the old landlord turned capitalist. However, the overall land concentration remained unchanged -- only the composition of the top 20% of land owning households underwent a change. Consequently, only in regions where the 'built-in-depressor' of ground rent was overcome through technical change did investment occur. This was true in Punjab, Haryana and Western Uttar Pradesh where landlords were already somewhat anachronistic, the farm size was somewhat larger than the average small strip and a substantial middle and rich peasantry already existed. In regions of highly polarised class structures, the release of productive forces remains arrested.

Consequently, inequalities in agricultural production across States have increased. The co-efficient of variation of per capita agricultural output has doubled from the early 60's to the late

70's. Further, in as many as 88 districts, comprising 30% of the cultivated area, crop output is growing at less than 1.5% per annum, which implies that they are experiencing a reduction in per capita output. Utsa Patnaik (1987) has shown that while the share of Punjab, Haryana and Uttar Pradesh in total foodgrains output has increased from 28.75% in the 1974-75 - 1976-77 triennium to 35.62% in the 1983-84 - 1985-86 triennium, that of Gujarat, Rajasthan, Maharashtra, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, has decreased from 37.34% to 32.02% in the same period. Further, considering only wheat and rice (the prime 'Green Revolution' crops), total output in Punjab, Haryana and Uttar Pradesh increased from 35.887 million tonnes in 1981-82 to 48.014 million tonnes in 1985-86, while that of the seven Southern and Western States combined decreased from 26.441 million tonnes to 22.862 million tonnes.

In terms of classes, the terms of trade shift in favour of agriculture between 1963 and 1975, led to a decline in the real earnings of rural labour. The Rural Labour Enquiry of 1963-64 and that of 1974-75 shows that the real wage rates on an all India basis fell "drastically" for males and "substantially" for females (Utsa Patnaik '86). Given that the fall in wage rates were not uniform over the country (Punjab & Haryana barely registering a fall), the plight of labour in the Eastern States can be well be imagined.

From the mid 70's, the prices of manufactured goods rose faster than that of agricultural products, which squeezed the earnings of the small and middle peasantry, and also pauperised

some of them sufficiently to join the rural labour force (between 1978-79 and 1984-85, the real value of the wage bill in the primary sector has fallen while both the absolute and relative share of rural labourers in the work force has been rising).

Structurally, there has been a widespread tendency for diversification of rural employment away from agriculture - to the "non-household non-factory" sector. This is not surprising given the shrinking of employment opportunities within agriculture relative to the workforce and the organised sector not being able to absorb much more than the natural increase in the workforce.

SHARE OF MANUFACTURING EMPLOYMENT

EMPLOYMENT PROPORTIONS IN MANUFACTURING	<u>1961</u>	<u>1981</u>
Non Factory Non Household Sector	25%	42%
Factories	20%	26%

SOURCE: Vaidyanathan [1988]

This increase could practically be due to the preferential small scale industrial policy by the State or because of the significant differentials in wage rates between the factory and the non factory sectors, symptomatic of a fundamental dualism within the economy. The workforce in the non-agricultural unorganised sector grew at 3.5% per annum between 1970-71 and 1983-84, while the NDP (deflated by the general NDP deflator) grew at 4.7% per annum in the same period - thus the 'real' per capita NDP of the population dependent on this sector increased by 17% over this period. Apart from the fact that the level and pattern of production in this sector is barely known, its dynamics also presents a conundrum to analysts. Some have postulated that its

growth is simply a response to demand for such activities in States where income increases have been significant - a sort of 'demand pull' hypothesis operating in Punjab, Haryana, parts of Uttar Pradesh and Maharashtra. However, Vaidyanathan (1986) has shown that there is a significant co-relation between increases in agricultural unemployment and increases in non-agricultural employment - a version of a 'poverty push' hypothesis, implicit in the lack of alternative employment opportunities in the agricultural sector itself.

It has been claimed by Chakravarty (1987) that production in eastern India could be augmented through "suitable water management, along with provision of credit. The former remains to be tackled primarily on a technical basis, although it is not independent of social factors such as fragmentation of holdings, the lack of consolidation of holdings, and so on. (The latter) is primarily a matter of political mobilisation of the small farmers, on the one hand, and provision of adequate administrative support for infrastructural development, on the other". While this view may be practically valid in West Bengal, it is simplistic in its ignorance of production relations in Bihar. If land reforms had been introduced effectively, it could have led to a process of political democratisation in the countryside. The State could have chosen to alter production relations though opposition to feudal interests with the help of a wide democratic coalition, it chose instead the path of landlord capitalism in the 50's. Consequently, when the transformation of production relations to capitalism took place in the late sixties and early seventies, it was unaccompanied

by any alteration of the structure of power relations. The feudal power structures and modes of domination remain: the customary servility of the lower peasantry, caste based discrimination and the absence of a machinery to enforce even elementary legal rights like voting.

With public investment in irrigation and construction of roads, a rural oligarchy of traditional landlords and rich peasantry, contractors and transport owners had emerged by the late 60's - whose economic strength lay in the looting of public funds. An elite created through chicanery and graft is not capable of pulling a populace from the incubus of history - in a study of 12 villages conducted by Pradhan Prasad (Also see the paper by Kalyan Mukherjee and R.S. Yadav in Arvind N. Das (ed.) 1982), 32.56% of the labour was found to be "bonded", nine-tenths of them had to attend to their employers' work first, more than one-tenth couldn't work elsewhere - "free labour" (in Marx's sense) is used only pejoratively in Bihar. Indebtedness was rampant - about 97% of direct producers and 67% of total rural households were in debt, the average annual rate of interest on which was as high as 48.79%. Not only was rack-renting and usurious interest rates a mode of extracting surplus value, it was also used as a mode of domination. Any resistance (which is obviously more complex than just a reaction to economic exploitation) has been dealt with severely - Belchi, Pipra, Parasbiga, Kansara, Arwal etc. are witness to that. The rural dispossessed and destitute too are no longer silent - clamouring if only to survive. Within such a matrix of social relations, small peasant co-operatives investing in minor

irrigation projects can only have symbolic meaning - a drastic overhauling of the property relations in agriculture is the prerequisite for augmenting production in Bihar.

Moving away from Bihar to the national situation, it remains true that the impact of specially uneven and socially-narrow-based tendency of capitalist production can be seen through three inter-related processes: "the tendency to raise the rate of surplus extraction, among other things by utilising caste-based relations of domination and servitude; the tendency towards a widening of the gap between the potential and the actual productivity of agriculture; and the tendency towards an insufficient expansion of the rural market for manufactured products of mass consumption" (Utsa Patnaik, 1986).

The constraints that low agricultural growth creates is most evident in the pathetically slow expansion of the home market for industrial products. The profile of aggregate demand generated through landlord capitalism in agriculture is necessarily stunted vis-a-vis that engendered through a more broad based egalitarian path apart from skewing the composition of effective demand in favour of import-intensive consumer durables.

The possibility of "bootstrap-self-help type" capital formation is amply demonstrated by China - we have already noted capital formation schemes harnessing surplus labour for irrigation, soil conservation, afforestation and terracing; let us delve into rural industrialisation here. By 1975, after the initial disastrous experiences with 'backyard' steel furnaces, rural plants supplied more than half of China's chemical fertilizers and cement

output (Lippit, 1987). Small scale enterprises not only served as subcontractors for large State owned firms, but also provided a host of consumer goods to rural consumers. Further, small scale hydro electric power generating stations contributed to widespread electrification of the countryside. By early 1980's, brigade and commune level industries accounted for more than 13% of the industrial output and a third of the collective income generated in the countryside (Lippit, 1987).

"Agricultural-demand-led-industrialisation" (coined by Irma Adelman) not only eliminates the shortcomings of export led growth which is tethered to wildly fluctuating international markets, but also expands the home market through augmenting of incomes in the agrarian sector. Further, as Scitovsky has noted, it leads to enormous savings in urban infrastructure apart from neutralising the migratory pattern in developed countries - that from rural areas to ghetto - like urban slums.

However, a prerequisite for capital formation through a low injection of complementary resources from the State, requires an appropriate institutional framework. It was Mao's China which demonstrated the importance of "walking on two legs" -- where agriculture was treated as the 'foundation' and heavy industry as the 'leading sector'. This is not to claim that Mao did not use agrarian reform as an instrument to 'primitive socialist accumulation' -- through setting a high grain quota with a low delivery price, as well as infrastructural asset creation through 'labour accumulation'. The weak links in the system were clearly the vertically integrated systems of political and economic control

and an extremely high rate of accumulation which ruthlessly checked increases in peasant consumption. However, it is this infrastructural base - dam construction, irrigation and drainage, road construction, afforestation etc. - which Deng is building upon in his market-oriented reforms.

This path also reduces the vulnerability of marginal and small peasantry to periodic droughts while the urban sector is cushioned by supplies generated within the 'commoditised subsector'. In fact, rural industrialisation in India has tenuous links with agriculture - Papola (1987) in his 17 state study (for 1973-74 --- 1975-76) discovered that while rural industries in Assam, Punjab, Gujrat, Tamil Nadu, Haryana and Uttar Pradesh were performing reasonably well, those in Kerala, Jammu & Kashmir, Rajasthan and Maharashtra were barely breaking even and those in Bihar, Orissa, Karnataka and Andhra Pradesh were "merely absorbing people at sub-marginal levels of productivity and living". Clearly a backward agriculture stymies rural industrialisation as rural industries almost inevitably use agricultural produce as inputs and create products for rural use or rural consumption -- goods like food products, textile products, wood products and simple machinery. The polarised class structure in agriculturally 'underdeveloped' states not only limits the markets but biases effective demand towards consumer durables (given the concentration of incomes in the hands of those most influenced by 'demonstration effects').

Further, the use of machinery and power seems to improve the performance of rural industries -- and in the absence of aid from a resource constrained State, institutions and organisations would

have to evolve which simultaneously augment "rural capital formation and essential social consumption". The moot question remains - can such institutions evolve without sabotaging the prevailing status quo -- that of a high precapitalist ground rent and brutal modes of domination?

2. POLICIES AND CONSTRAINTS

The attempt to create a 'vibrant' economy through a strategy of 'consumer durables led growth' finds its clearest expression in the 1985-86 budget. In March 1985, the government announced the delicensing of 25 broad categories of industries. Later, 82 bulk drugs were delicensed too -- the stipulation in both cases being that the applicant did not fall under the purview of MRTP or FERA Acts. Further, the product was not to be reserved for small scale industry and the unit was to set up operations only in specific urban areas.

MRTP limits were themselves raised from Rs.20 crores to Rs.100 crores. If an MRTP company wanted to enter an industry not included in Appendix A, it would have to undertake an export obligation of 60% of its product. Licensing was further whittled down when 22 out of the 27 industries under sections 21 and 33 of the MRTP Act were delicensed, provided they were located in backward areas.

There were further concessions. To encourage flexibility in the product mix the government accorded the facility of 'broadbanding' to 27 industrial groups. Units could now produce similar products such as cotton and woollen textiles without

obtaining new licenses. It launched a capacity 're-endorsement' scheme which permitted units which had achieved 80% capacity utilisation during any of the 5 years preceding March 1985, to re-endorse their licenses, raising capacity by 1/3 of the highest production achieved in the previous 5 years. Further, it permitted units to apply and obtain, without bureaucratic obstacles, licenses for expanding capacity under pre-specified economic scales of production. To reduce monopoly profits for sheltered domestic industry, quantitative restrictions were to be selectively replaced by tariffs.

These measures not only enlarged the space reserved for both domestic and metropolitan capital, they facilitated the re-ordering of the product mix in tune with the volatile demand pattern, induced through global 'demonstration effects'. Further, substantial direct and indirect concessions were given to the 'sunrise' industries (synthetics, automobiles, consumer electronics) for stimulating consumer demand and enhancing profitability.

What are the sorts of constraints that this boom can run into? Let us briefly consider the fiscal constraint first. The public sector accounts for 25% of the net value added by manufacturing industry today -- moreover it is the sole or the dominant source for several intermediate goods such as energy and transport. Clearly, an acceleration in the organised private sector cannot be sustained unless the supply of power, energy, transport and intermediates is stepped up.

Regional lopsidedness of agricultural growth may inhibit the immediate manifestation of a 'fiscal crisis', it does remain latent however. Some statistics would reveal the magnitude of the problem -- though the tax to GDP ratio has increased from 6.6% in 1950-51 to 18% in 1987-88, the share of direct taxes in the total tax revenue has decreased from 36.9% to 15.8% in the same period. It is well known that indirect taxes are regressive: the Indirect Taxes Enquiry Committee estimated that 55% of total indirect taxes in 1973-74 was paid by households with a monthly per capita expenditure of Rs.100 or less; the direct tax net has been successfully evaded by the property earning classes. And while tax revenue has stagnated, non plan expenditure has outpaced the growth in revenues. Defence, interest payments and food and fertiliser subsidies are the major constituents of nonplan expenditure -- their share has increased from 67% in 1984-85 to 72% in 1988-89. Of these, defence expenditure is normally considered out of bounds by economists. However, it is interest payments which I.G. Patel has claimed as symptomatic of an 'internal debt trap' -- they have increased by 36% between 1984-85 and 1988-89. Borrowed funds are being increasingly used for current expenditure which does not generate any income yielding assets -- this not only makes debt servicing more difficult, but also necessitates still larger borrowings.

Food and fertiliser subsidies have increased from 1% of GDP in the Sixth Plan to 1.6% of GDP in the first four years of the Seventh Plan. While the fraction of the peasantry which is getting pauperised is increasing over time, those who have got into the

vortex of the commercial economy are agitating for greater subsidies and higher prices. Further, implicit subsidies are granted through underpricing both power and water in rural areas.

The government, given the inflexibility of the nonplan expenditure has two options to mitigate the fiscal crisis: widen the tax net or increase public sector surpluses. While direct tax increases are not politically feasible, indirect taxes on luxury commodities are being reduced to stimulate their consumption. The only alternative is to exhort public sector units to generate surpluses -- if the high administered prices of the oil sector are excluded, the public sector would have incurred a loss of Rs.372 crores in 1984-85 (according to the 'Public Enterprises Survey').

The 'fiscal crisis' in the '80s has been resolved through large doses of deficit financing and also borrowings from the market. Deficit financing which was Rs.1147 crores in 1983-84 peaked at Rs.8260 crores (realised) in 1986-87. Similar gross market borrowings which stood at Rs.2949 crores in 1980-81, shot up to Rs.6300 crores in 1986-87.

The public expenditure increases in the '80s, as already noted, have focussed on public administration and defence. Thus while agriculture has grown in real terms by barely 40% since 1970-71, and industrial activity by 70%, the overall increase in the services sector has been of the order of 130% in the same period (while that in Defence and Public Administration has increased by 350%). Ashok Mitra has pointed out that in developed industrial economies, the rise in the proportion of incomes originating in services is accompanied by a corresponding shift in population to

this sector. In India, by contrast, the sectoral distribution of the work-force remains unchanged, implying that "the explosion in the service activities cannot be readily attributed to any impulse transmitted by the sectors engaged in material production. It has an autonomous character which is a kind of superimposition on the natural forces of historical evolution".

The pump priming, which has primarily augmented the incomes of the middle and upper-middle classes, has gone into sustaining the consumer-durables-led boom. This new phase of public expenditure-led growth (as distinguished from the 1960s) sustains consumption demand for import intensive manufactures -- food products, synthetics, leather and leather products, electronic items like stereo systems, televisions and video cassette recorders, chemicals and automobiles. The government has aided this process not only through enlarging the space for domestic capitals, but also overmanning the public administrative apparatus. This mediation has permitted some sort of a 'trickle-down' of the consumer-durable boom to the State's bureaucracy.

What is interesting about both phases of growth (1950 to 1965 and 1975 to 1985) is that the terms of trade have turned against agriculture, as C.P.Chandrashekar has noted. The ratio of net output per worker in non agricultural activities to that in agriculture has progressively widened from 1.9 in 1970-71 to 3.2 in 1984-85. Apart from a progressive increase in the inter-regional disparities in output per capita, the immiserisation of agricultural labour has increased, as noted. There are two sets of problems we would like to pinpoint at this juncture:

(a) The enclaves of high agricultural growth may soon witness diminishing returns while stepping up growth in the low yield areas is plagued with problems. In the eastern part of the country, growth may easily get smothered because of rapacious production relations (incidence of tenancy, rack-renting and uncertainty over the right to land). Apart from private investment, in productivity enhancing technology, irrigation gives a fillip to productivity. Effective water management not only requires public irrigation (which may not be forthcoming because of the fiscal strain that the State faces), but also interference with individual property rights. This latter would ensure release of land for laying out irrigation and drainage channels or regulating the distribution of water from a common source. All in all, agricultural growth may soon run out of steam and thus subvert the growth process through the pincer grip of inflation.

(b) The other problem concerns the very stability of the system. Inequalities between regions is embedded in the path of landlord-capitalist agrarian development that we have adopted. Indifference to regional inequalities has created intense regional grievances; these problems do not become tractable just by co-opting the leadership of the movement. Punjab and Assam typically represent the two poles of regional movements -- Punjab is for retaining the differentials of productivity increases of the Green Revolution for itself (in terms of higher procurement prices) while Assam sees its economic backwardness as a fallout of the Centre's neglect. Such irreconcilable demands portend a grim

future for Indian nationalism -- regionalism appears to be a part of the reproduction of the system itself.

In more narrow economic terms, there is some sort of a 'realisation problem' associated with a consumer-durables-led growth. Patnaik has shown that if new products have a very high import component; are financed through switching expenditure from other commodities and not by a decline in the propensity to save, or consumer credit or a budget deficit; and if the input import content of the new products is much greater than the old products they replace --- then the market may actually contract. Obviously this is an extreme situation -- there has been a decline in the propensity to save after '79, deficit financing is very much a part of the resource mobilisation system and though the import content of consumer products is high, attempts to indigenise foreign technology have been made. Further, recent surveys have revealed that consumption patterns have undergone significant changes in regions and classes which have not witnessed any dramatic changes in the overall income levels (Vaidyanathan, 1988). These shifts are characterised by a significant rise in the proportion of expenditure devoted to non-food items in most classes and a greater diversity of manufactured products in people's consumption. Further, there is a rise in the incidence of durable-goods ownership -- both in terms of the percentage of households reporting durable-goods ownership and the range of commodities possessed. These changes are not consistent with what one would expect if the basic pattern of preferences at different levels of income had remained unchanged. The increasing concentration of

income in the organised sector perhaps supplies a hint -- while the proportion of the workforce engaged in the organised sector (private and public) remains stagnant at roughly 10% both in 1970-71 and 1985-86, they absorbed 38% of the total factor incomes in 1985-86 vis-a-vis only 27% to 28% in 1970-71.

Nevertheless, it remains true that most consumer durables have high import intensities and are merely 'assembled' in India -- the screw-driver technology severing backward linkages of subcontracting. Again, though pent up demand may sustain a first round spurt of consumer durables, the expansion of the market would crucially depend upon introduction of new products and/or cost reductions in the existing ones. The high import content, however, fetters growth through a constraint which has always been in the vicinity -- that of balance of payments.

Kaldor (1957) had claimed, "When the subsidy to 'infant industries' takes the form of a protective tariff,, the internal price structure is adapted to the internal cost structure; not the internal cost structure to the external price structure" (Emphasis in original). These arguments have been adopted in toto by Indian policy makers and liberal economists -- they claim that the diversified industrial base that India possesses has extracted too high a price in terms of technological obsolescence and inefficiency. Further, the spectrum of controls dampened the coercive forms of competition within the country while insulation from international competition (through quotas) thwarted innovation.

Import liberalisation, both of capital goods and intermediates has been an essential part of the 'liberalisation' process. Reducing tariffs and practically eliminating quotas, it is argued, shall provide producers with cheaper capital equipment and intermediates, while coercing the domestic suppliers of these commodities to reduce costs.

This strategy also sees exports as providing a larger market for Indian products. What it doesn't appear to recognise is the increasing protectionist stance being adopted by the metropolitan countries in areas such as textiles, garments, shoes, iron ore and leather. Further, the poor performance of infrastructural industries (such as power and transport) sets natural limits on export growth. Two examples may be cited: engineering exports, which are a thrust area under the new dispensation, are almost completely dependent on the eastern European countries and the USSR for demand. The other example relates to power: in the absence of a national grid, the National Thermal Power Corporation at Singrauli recently had to shut down a unit temporarily -- this was because western India, which receives most of the power from NTPC faces a power glut because of high hydro electric power generation. This is occurring at a point when the eastern regions are starved of power.

Further, the ability to penetrate Japanese and American markets is ultimately dependent on the whims of the Japanese and American capitals wanting to use India as their hinterland -- a base for manufacturing products. Such a strategy would entail complete subservience to the Japanese or American or any other

metropolitan capital: a strategy which mortgaged India's development to metropolitan whims.

The corporate sector, which is supposed to spearhead exports, has performed rather dismally till now. According to the Industrial Development Bank of India, the 315 companies assisted by it have increased their dependence on imported raw materials from 13.7% in 1984-85 to over 20% in 1986-87. The net foreign exchange outgo for these companies has gone up from Rs.482 crores in 1984-85 to Rs.1329 crores in 1986-87. The easing of foreign collaboration norms, easier access to import technology, capital goods and raw materials are fuelling the domestic consumer durables sector -- they have not provided a thrust to exports yet. And even if exports do get a boost (because of imported inputs) in the long run, short term trade deficits may soon reach crisis proportions.

Trade deficit figures are indicative -- from Rs.5390.5 crores in 1984-85 it rose steeply to Rs.8747.5 crores in 1985-86 and declined to just Rs.7512 crores in 1986-87 despite a sharp fall in the world oil prices in 1986-87. In the new Export-Import Policy of 1988-91, the list of items under the 'Open General License' category has further expanded. On the financial side, India's share in external assistance has been declining -- much of the increase in trade deficits has been financed through commercial borrowing. According to the Bank of International Settlements, between June 1985 and June 1986, India tapped international borrowings to a tune of \$ 2.2 billion. Commercial borrowing may gradually result in the 'Argentining' of India -- the debt-service ratio stood at 24% in 1987-88 compared to 13.6% at the end of the

Sixth Plan. And while traditional items like cotton and jute cannot sustain an export thrust, non-traditional manufactured items not only face severe competition from the 'Gang of Four' but also much higher input costs (given that the administered price hikes and indirect taxes are propping up a floundering fiscal system).

3. TECHNICAL CHANGE

It is in this context that we examine the impact of import liberalisation on technical change. Let us consider the capital goods sector as a case to the point. Imports of capital goods have always been made under two categories--'project' and 'non-project'. The latter were always subjected to a heavy rate of duty (averaging around 100% before 1985); the former category with a much lower rate of duty (65%) barely afforded any protection to the domestic capital goods producers. This was not only because indirect taxes on inputs were high, but because the capital goods sector was considerably outdated. (M.R. Bhagvan's study puts it at 10 to 15 years).

This trend could have been reversed by substantive investments by both the private and the public sectors into the industry -- however, by 1985, the government had not only shifted a number of capital goods under the Open General License category, but significantly reduced duty under the 'project' import category as well. Duties on project imports of capital goods had been reduced from 65% to 45% while that on power and fertiliser projects, to 25% and zero percent respectively. With the capital goods industry in doldrums (see Table 12), the project import duty was raised to 55%

in the 1986 budget. However, the recession in the metropolitan countries had led to an enormous underutilisation of capacity in the capital goods industry -- thus the manufacturers not only resorted to 'dumping' of their equipment, but also granted 'soft loans' for their purchase.

The analytical point here is whether international prices can be used as 'benchmarks' or 'shadow prices', given the dumping that goes on in the struggle for economic space by metropolitan capital. Is one not giving out low cost options under the guise of import substitution? The problem with static comparative advantage notions is that a country gets permanently locked in the prevailing international division of labour. Further, production structures are not malleable -- and it is the theme of 'time' which has led to production planning in countries like Japan and South Korea. The production structure should also be dictated by future prices and trading opportunities, not just today's prices and trading opportunities. Production also involves externalities, 'learning by doing' and formation of skills.

The problem really is that the classification of a good as a 'tradeable' or a 'non-tradeable' is not independent of production choices made today. And if we decide to produce 'core' sector commodities to build a diversified production structure, there are incentive compatibility problems in maintaining a vector of 'efficiency' norms -- low costs, low energy consumption, productivity etc. The 'learning' effects in the core sector have definitely been somewhat limited in the Indian economy -- whether they were due to capacity underutilisation because of wrong demand

forecasts or because sub-optimal technological options had been forced on to us in the initial stage itself (as perhaps in the Durgapur Steel Complex) or because adequate real public and private investments were not made at appropriate junctures -- can only be debated.

As regards the Indian capital goods industry, its development was necessarily impeded by the deluge of imports. The rate of growth of production machinery and machine tools declined from 6.1% in 1984-85 to 2% in 1985-86 and that of electrical machinery from 5.25% between 1971-72 and 1975-76 to 2% between 1980-81 and 1985-86. Further, imports of capital goods cross Rs.4000 crores in 1985-86 and scaled a peak of Rs.5467.30 crores in 1986-87. Alarmed by this trend, the 1987 budget nullified the liberalisation measures of the previous two years. The duties on capital goods imports under the 'general' and 'project' import categories were equalised and raised from 55% to 85%, that on fertiliser equipment from zero percent to 15% and that on project imports of power equipment of less than 50 million watts from 25% to 35%.

The question still remains -- how is technical change in these heavy investment, long-gestation lag industries to be induced? How important is modification, adaptation and innovation in the capital goods industry? How does the capital goods sector respond to the needs of local users? What role does subcontracting of components play in inducing technical change in capital goods industries?

Two broad categories of technical change have been enunciated -- a 'catching up' and a 'frontier following' strategy. Frontier followers are those countries which do not attempt to generate the

TABLE 12 RATE OF GROWTH OF CAPITAL GOODS PRODUCTION

INDUSTRY GROUP	1971-72--1975-76	1976-77--1983-84	1980-81--1985-
Non Electrical Machinery	8.28	6.34	4.80
Electrical Machinery	5.25	5.19	2.00
Transport Equipment	5.60	3.68	8.70

SOURCE: C.P. Chandrashekar (1987): "Investment Behaviour, Economies of Scales and Efficiency in an Import Substituting Regime: A Study of Two Industries", E.P.W. Annual Number.

latest vintage technologies even in the long run -- they just use frontier technologies. The 'catching up' strategy involves 'reverse engineering' or imitation in the initial stages and production innovation later. Countries which were not on the frontier of technological change, like Germany and the USA in the 19th century, Japan in the early 20th century and South Korea and Taiwan in the 1960s, 'caught up' fairly easily with large doses of physical investment. This stage does not demand 'designing' ability, only the 'know how' to operate production processes efficiently. However, catching up is not a passive process -- assimilation of technology is purely related to the emergence of an indigenous technological capacity. This is most evident in Japan's case where reverse engineering embodied incremental technical changes -- the objective was to produce better products than the world leaders. A Ministry of International Trade and Industry (Japan) study of 1962 states, "1/3 of R & D expenditures (were to be allocated)....for modifying or improving imported technology". Clearly improvement, adaptation and cost reduction of leading foreign technology bridged the gap between 'diffusion' and 'generation' of technology.

The problem with the catching up of strategy, as we have noted, involves the selection of 'thrust' industries. In the short run, investment in industries such as steel, oil refining, petrochemicals, industrial machinery and informatics might defy the orthodox canons of economic rationality. However, from a long run point of view, these are precisely the industries where the income elasticity of demand is high, technological progress is rapid and

productivity increases are fast. Further, techniques of investment appraisal such as social cost benefit analysis are essentially static in nature. And in industries where the frontier itself is rapidly shifting and the investment required is gigantic (such as micro-electronics), frontier following or catching up may be equally difficult.

4. EAST ASIA

The political economy of the East Asian countries and Japan has often been reduced to a choice between 'inward looking' and 'outward oriented' strategies. An attempt is made here to trace their development within the realms of political economy.

A few points about Japan first, as it is supposed to epitomise the 'export promotion' strategy. Japanese economic growth is a complex process, but the story would definitely have to include the process of 'primitive accumulation' -- and in this Japan's colonies played a significant role. In escaping the 'India fate', Japan transformed herself into an aggressive imperialist power and was engaged in six major wars between 1894 and 1945. Its colonies -- Taiwan and Korea -- not only supplied it with cheap rice, but also preemted the need to divest surplus to the agricultural sector. By the 1930s, the import of rice from Korea and Taiwan amounted to 25% of Japan's domestic production; while in the 1920s Korea, Taiwan and China absorbed 60% of its cotton exports. Further, the indemnity from China following the Sino-Japanese war of 1894-95 provided the foundation of railroads, communications and steel. (It amounted to about 30% of Japan's GNP at that time).

Wars did not only ventilate the frustrations of the former 'samurai' -- the State owned arsenals provided a fertile subsoil to Japan's nascent engineering industry. Further, a nucleus of industrialist capitalists (which included Zaibatsus such as Mitsui, Mitsubishi, Furukawa etc.) were created by the State selling established large enterprises at throw-away prices. Not only was land tax a source of primitive accumulation, but so was the patriarchal life time employment system in factories, which paid low wages for inordinately long hours of work. All this is not to deny an inherent dynamism displayed by Japanese capital in adapting and bettering western technology.

Let us shift our attention to South Korea now. The Korean story has to begin with the infrastructural investment in transport, education and agricultural sciences made by the Japanese. These were undoubtedly made for extractive purposes and Korean rice consumption, consequently, did indeed fall during the Japanese occupation. However, unlike other colonised countries, the foundation of agricultural growth had been laid, and this was given a further fillip by the land reforms undertaken by the Americans in the post-World War II phase. Not only were large Japanese estates distributed among small tenant farmers but for the large indigenous landowners were also forced to sell their land (only 3 hectare plots were permitted) at prices far below market values.

Statistically, the Gross National Product grew by 8.7% per annum over 1965-1981 period, while manufacturing output, employment and real wages in manufacturing grew by 20.6%, 3.4% and 7.9%

respectively over the same period. We should start by focusing on two features of Korea's social and economic environment -- complete eradication of illiteracy (Korea provides 6 years of free and compulsory education) and the exceptionally generous economic aid that Korea has received from the United States (averaging 8.3% of the GNP before 1965 and continuing at a somewhat lower level until 1972).

Another important feature relates to long working hours in Korea -- 59 hours a week -- and the virtual absence of any trade union activity. As Chakravarty has noted, long working hours is a primary determinant of the accumulation process according to Marx. Further such long hours have also implied (despite rising real wages) much lower 'product wages' vis-a-vis countries like India. This exploitation of the working class has been possible through the virtual ban on trade union activity -- dictatorship is the brutal nether side of Korean dynamism.

One of the most important features of Korea's growth is the 'particularistic' nature of State intervention -- "designed to ensure private industry's close compliance with their plans. The main incentive is differential excise to credit and concessionary cost of credit" (Scitovsky, 1985). Low average interest rates in an inflationary climate have implied zero or even negative 'real' interest cost. Firms which disobey government fiat find their loan applications ignored -- this in a country where domestic capital relies heavily on bank credit.

Not only does the State provide 'holidays' for approved investments, remissions of duties on imported inputs for export

production and exemption of exports from indirect taxes, but also induces investment in specific industries through lower rates of profit tax and very generous depreciation allowances. This form of strategic micro level intervention is evident from Bagchi's example, "In 1981, the government forced Kia out of the passenger car business as part of its heavy industry reorganisation. In return, the debt ridden Kia was given a monopoly in (the) 1 tonne to 4.5 tonne trucks".

The close collaboration between government and business has led to the formation of gigantic conglomerates called 'chaebols' -- the 20 largest Korean chaebols were responsible for producing half the value added in manufacturing in 1981. Each of the four largest chaebols (Hyundai, Samsung, Daewoo and Lucky) had an annual gross turnover between U.S. \$ 5 billion and U.S. \$ 10 billion in 1981. The largest firm, Hyundai, had gross sales of U.S. \$ 10 billion in 1981 and employed 1,50,000 workers -- it had started out in 1950 as a small construction and auto repair shop.

Perhaps the most important factor contributing to Korean growth has been the very high level of investments it has maintained -- between 1965 and 1981, the investment rate averaged 26.5% of the GNP while the savings rate was a paltry 18.6% in comparison. The remainder came from capital imports, out of which a third was aid, somewhat less than two thirds loans and a negligible proportion -- foreign direct investments. This is the most significant fact about Korean development -- the State set ambitious investment plans which were often more than fulfilled. Obviously, there was an effective excess demand pressure --

equilibrium was restored by increasing domestic supplies, additional flows of foreign capital and a worsening of the balance of payments.

TABLE 13 FOREIGN PUBLIC DEBT IN 1980

Country	Debt outstanding as percentage of GNP	Debt service as percentage of export earnings
KOREA	28.8	12.2
TAIWAN (1979)	12.1	4.2
MEXICO	20.6	31.9
BRAZIL	16.4	34.0

Source:
Scitovsky, 1985

Domestic supply increases came from increases in capacity utilisation through an increase in the length of the working week. However, it is the inflow of foreign loans which was far more important and here Japan was clearly the 'locomotive of growth'. International banking institutions, which were controlled by America were also more than willing to recycle petrodollars to finance South Korea's import surplus. With an increased intake of foreign loans, South Korea's external debt soared to 38% of GNP in 1976 and was 56% of GNP in 1982 (Watanabe, 1985), surely not a figure that even the South American countries could afford. In so far as the capacity utilisation of foreign loans, it resulted in inflation. Thus, the working class, which was hardest hit by inflation, found itself 'involuntarily financing' the residual

investment -- the component not matched by voluntary saving and foreign lending.

Japan's role in this process cannot but be emphasised --- it supplied capital, provided technological know-how when Korea moved into its heavy industry phase and also markets for products in which Japanese wages had crossed the Lewisian 'turning point'. In this sense, there was a crucial 'phase difference' from the mid-'60s in the real wage paths of Korea and Japan: Korea easily began to produce and export commodities in which Japan no longer had a comparative advantage because of high real wages (such as cheap consumer electronics). As far as the iron and steel industry is concerned, the intermediate inputs were almost wholly supplied by Japan -- Yamazawa et al (1986) have pointed out that a unit increase in the final demand in the iron and steel industry in Korea induces a 0.67 unit production in Japan.

For all that, Korea did display considerable technological dynamism and low incremental capital output ratio at the margin and did penetrate the American and the Japanese markets. Over the period 1965 to 1981, Korean exports rose at an average annual rate of 35% (in US Dollars). Exports had a high import content (40%) though, and imports rose at an average annual rate of 28.7% (in US Dollars) in the same period. By 1981, exports constituted 33.6% of the GNP while imports drained 41.3% of the GNP -- in its export promotion phase, imports increased at a slow pace vis-a-vis exports, yet a balance of payments deficit remained.

We come back to the State -- to gauge its impact on the changing structure of manufacturing output. In the early '60s, the

Korean emphasis was on light industries like food processing, textiles and clothing and there was import substitution in areas such as infrastructure, fertilisers and petroleum. These industries not only provided employment but also an export thrust. By the end of the decade, investment shifted to more capital and skill intensive industries such as steel, chemicals, shipbuilding, construction, electronics, footwear and within textiles to sportswear. The rationale behind such changes was perhaps to take advantage of its skilled labour, to diversify exports in anticipation of Japan's diminishing competitiveness in some sectors and to respond to increased domestic demands. The U.S. and Japan (in the post 65 period) provided aid, loans, technology and markets. Between 1946 and 1976, the U.S. had supplied \$ 12.6 billion in economic and military assistance, the international financial institutions an additional \$ 1.9 billion and Japan approximately \$ 1 billion (Bagchi, 1985).

This investment policy, whatever its rationale yielded dividends -- the 10.2% annual growth of real GNP during the initial years of export promotion (1965 - 1971) sustained itself for another 6 years -- with a 10.1% annual growth between 1971 and 1977. Exports which paid for 63% of the value of imports in 1965 and 60% in 1971 equalled imports in value by 1977.

Reducing the country's vulnerability to recessions in metropolitan countries was achieved by diversification of exports in terms of both products and countries. This export oriented growth in the leading sectors such as textiles (the leader in the '60s), electronics (the leader in the '70s) and automobiles (the

leader in the '80s) was often obtained through sequential shifts from import replacement to imported technology absorption to foreign assisted imports and then to independent exports: the elements mixed in different proportions from sector to sector. Further, some insulation from the global economy was provided through "an open door policy to international trade with a not so open door to international capital movements" (Scitovsky, 1985).

By 1977, despite a slowdown in the world economy, the emphasis shifted to heavy industries. The share of investment in GNP rose from 29.4% in 1975 to 36.9% in 1977-79 and the combined share of metals, chemicals, intermediate products, machinery, transport equipment and electronics rose from 48.2% to 78.9%. Interestingly, the research and development expenditure incurred by private firms had begun to exceed that by the government in 1981.

However, this spurt in investment also led to an escalation in wages and costs, thereby making Korean exports less competitive in a 'static' sense. Further, the cut back of investment in light industries caused intersectoral disproportionalities, leading to a re-emergence of a trade deficit after 1977. Investments in creating capacities in heavy industries was clearly an aspect of long run production planning -- however, downstream industries such as steel, shipbuilding, chemicals, and automobiles also had to create new capacities which remained underutilised. Notwithstanding the above, most of Korea's heavy industry embodied latest vintage technology (given access to Japanese foreign aid/loans as well as technology) and an attempt is being made to export steel and other capital goods to Third World countries.

TABLE 14. PERCENTAGE COMPOSITION OF MANUFACTURED OUTPUT

Year	(1) Food, Beverages & Tobacco	(2) Textiles, Clothing & Footwear	(3) All Light Industry including (1) & (2)	(4) Chemicals, Petroleum & Coal	(5) Non- Metallic Minerals but not Petroleum & Coal	(6) Basic Metal Pro- ducts	(7) Machinery, Equipment & Fabri- cated Metal Products	(8) All Heavy Industry (4)+(5)+ (6)+(7)
1960	19.3	28.6	70.0	7.7	9.2	2.4	10.7	30.0
1965	26.5	19.8	61.8	15.0	6.7	5.0	11.5	38.2
1971	24.6	17.5	54.7	23.5	6.0	4.7	12.2	45.3
1975	21.2	22.0	51.6	21.8	5.6	4.7	16.3	48.4
1979	16.5	19.6	44.7	17.4	5.8	7.9	24.2	55.3

SOURCE: Scitovsky (1985)

Further, microelectronics has clearly emerged as the lead sector of the 1980s and large investments are being made to shift from 'assembly' of consumer electronics to the actual production of semiconductors, large scale integrated circuits, microcomputers and telecommunication equipments. Not only that, light industries such as textiles are being revived -- automation resulting in lower costs, better dyeing and more sophisticated designs.

The present international situation is clearly very different from that of the 1970s -- a global recession has drastically curbed world trade. A whole network of tariff and nontariff barriers (example - the 'Multifibre Agreement' of 1974) have been imposed by metropolitan countries including voluntary export restraints, orderly marketing arrangements and special product and country quotas. Apart from Cline's 'fallacy of composition' argument, cheap international finance is no longer readily available -- and at any rate, finance available to South Korea was a corollary of its strategic relationship with the U.S. and Japan. Further, as Kaplinsky has pointed out, quantum technical changes in information-based industries may radically alter the current international division of labour -- and might even cause a 'trade reversal' to the extent that subcontracted production is withdrawn from low wage, developing or 'newly industrialised' countries. Far more important perhaps is the sort of class configurations that the State in developing countries such as India have to contend with vis-a-vis that in Korea.

Synoptically, the viability of emulating the East Asian model must reckon with the following: access to major markets in OECD

countries, changes in the international division of labour from the mid '60s, the easy availability of international finance, American geopolitical and strategic considerations, a significant period of import-substituting industrialisation, a highly interventionist State, agrarian reform and the so called 'fallacy of composition' argument which stresses the limits of generalising the export success of the newly industrialising countries to the other developing countries.

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