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Deepak Lal

Introduction by Arnold C. Harberger

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PREFACE

This study of India is the fifth in the special series of publications that Arnold C. Harberger is editing in the Center's Country Studies series. These monographs follow the 1984 publication of *World Economic Growth: Case Studies of Developing and Developed Nations* and its thirteen "lessons" for economic policy, drawn from the book's twelve country case studies.

We have much to learn from the record of economic development in India. In the 1950s, India seemed poised to institute a massive and rapid system of economic growth. Forty years later observers see a very slow and steady rate of progress—in itself a remarkable success, but in comparison to its potential and to the performance of neighboring countries in East and South Asia, India's relative position must be examined.

As Deepak Lal illustrates in this paper, India's failures and missed opportunities lie primarily in the area of policy. As he demonstrates, the adoption of appropriate economic policies—fostering outward-looking economic growth and equity—are essential to India's future success.

Future publication in this series will examine the case studies of Bolivia, Burma, Turkey, Mainland China, New Zealand, and other countries. It is our hope that the country studies and conclusions reported by this group of scholars will serve decision makers and policy analysts in their efforts to evaluate present conditions and encourage the development of sound economic policies throughout the world.

Nicolás Ardito-Barletta
General Director
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Panama City, Panama
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Deepak Lal is Professor of Political Economy at University College, London. He has taught at numerous universities around the world, advised a number of governments in developing countries, and served as a consultant for various international organizations. From 1984–87 he was Research Administrator, Economics and Research at the World Bank. He has written widely on the economics of developing countries. His recent books include *Prices for Planning: Towards the Reform of Indian Planning* (1980); *The 'Poverty' of Development Economics* (1983); and *The Hindu Equilibrium*, 2 volumes (1988).

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ARNOLD C. HARBERGER

Introduction

The Indian subcontinent fascinates. It has been the cradle of cultures and religions, but also their battleground and sometimes their tomb. Into this melange of Hindu and Muslim, Parsi and Sikh, Jain and Buddhist, came the forces of modernization in the form of the British Raj. Two centuries later, India, side by side with Pakistan, was free. To many, it entered Independence with a dowry of advantages—an intellectual elite trained largely in England, a reasonably abundant supply of skilled labor, a disciplined bureaucracy built on the British model, and (not least) a respectable record of economic growth, with an industrial plant that ranked among the top dozen or so in the world.

In this essay, Deepak Lal traces several important strands that ended up having significant influence in the forty-odd years since Independence. Agricultural product grew faster than total national product during the first half of the twentieth century. Unfortunately, the overall pace was slow (doubling in fifty years), and much of its potential benefit was used up in coping with the population explosion that began in earnest after 1920.

Lal notes that during 1940-60 there was a dramatic growth (of some 75 percent) in the net area sown to agricultural products, while during 1950-70 there was a more than doubling of the capital stock employed in agriculture (Lal, Table 3). These signs of dynamism were later reinforced by the spectacular success of the so-called "green revolution" in India's northwest region.

The story on the industrial side is more complex. In the first place, India was an early starter in the process of Third World industrialization. By 1914, for example, she had "the world's fourth largest cotton textile industry and the second largest jute manufacturing industry" (Lal, p. 18). Starting from this base, manufacturing output more than doubled by 1938, ranking sixth (in rate of 1913-38 growth) among the world's producers of manufactured goods (Lal, Table 7).

In spite of these impressive figures, Lal finds in the 1913-39 period the seeds of the subsequent stagnation of Indian productivity in manufacturing. For a substantial share of manufacturing growth in these years took place "behind barriers of protection, which gradually grew in scope and intensity after 1913" (Lal, p. 20). When Lal compares the performance of Indian manufacturing in the pre-1913 free-trade period with that of the later protectionist era, he finds in favor of the earlier set of policies. The protectionist era was characterized by a much slower growth of employment in manufacturing, coupled with a marked increase in capital intensity (a potentially adverse development in a country so abundant in labor). Later, in the period 1960-80, the rate of growth of productivity in Indian manufacturing would turn negative (Lal, Table 9).

In his analysis of India's failure to industrialize efficiently, Lal places most of the blame in policies—mainly (that is, apart from the protectionist trade policies and restructure labor practices that were already in place long before 1947) on policies adopted in the post-Independence period. Lal faults Indian planning (of the 1950s and 1960s) as being based on a Stalinist model of development, as being totally pessimistic about export prospects, as entailing a veritable maze of targets, controls, licenses, and other constraints (the Permit Raj), and as embodying a massive and inefficient expansion of production in the public sector.

Protectionism was carried to the point where import licenses were not even given, so long as a good could be produced in India. Every imported item, no matter how small, needed a license. Capital goods and components were allowed to be imported, but consumer goods were excluded, with high cost given that rates of effective protection to consumer goods often exceeded 200 percent. As often occurs in such cases,the true effect of Indian policy in the post-Independence era was to stimulate the production of high-cost consumer goods behind almost-insurmountable walls of effective protection. And as is always the case with protectionist policies, exports suffered.

When, in the 1960s and early 1970s, the existence of the bias against exports began to be recognized, the policy reaction of the Indian authorities was not to simply liberalize the import-control system and thus move directly toward freer trade. Instead, it was to impose a new, complex system of export incentives on top of the existing import control system. This added a whole set of new distortions to the export sector. The end result of the new system was that some exporters were able to profit (due to direct and hidden subsidies) from operations in which export goods were sold abroad for less than the world-market price of the imported materials embodied in them. Lal concludes (p. 26) that "the inefficiency, waste, and corruption that the Indian trade control system has engendered are incalculable."

The post-Independence growth of the Indian public sector was massive. Most basic industries are virtual State monopolies; so, too, is the banking, insurance, and financial sector. Operating under a whole host of political pressures and taboos, India's public sector industries are typically far less efficient (by standard criteria) than their private sector counterparts. As a consequence, even while present electric generating capacity is underutilized, power shortages abound.

The 1970s saw a further expansion of India's public sector through the absorption of firms that were at the point of bankruptcy. Lal notes that not only is entry into industry heavily controlled, but also (p. 26) "the exit of the inefficient is also being ruled out through the absorption of sick industries by the public sector."

Labor legislation has been another major flaw in India's policy structure, due to a system of labor laws that have caused an "artificial rise in the price of India's most abundant resource" (Lal, p. 27). Other controls and incentives have artificially cheapened capital, favoring its use as against that of labor. India's labor legislation began in 1881 under the British; even then it tended to favor the choice of capital-intensive production techniques. With Independence, the labor code was "modernized" in numerous additional ways, further adding to this bias, curtailing the demand for industrial labor, and reducing the international competitiveness of India's industrial exports.

A new threat to India's economic progress has recently arisen in the form of an expansion of non-developmental government expenditure and the growth of the "public sector borrowing requirement." Hovering around twelve percent of GDP in recent years, this fiscal deficit poses a serious threat that India will fall into the same inflationary quagmire that has swallowed up many Latin American and African economies.

Enormous difficulties stand in the path of budget-cutting and rationalization. Each expansion of the public sector, each new class of controls, each added piece of protective or incentive legislation has tended to create its own privileged interest group. These groups resist at all cost the abridgment of their entrenched rights. By now, one can hardly move, on the Indian policy scene, without trampling on several of them. Any massive reform, entailing movement in many directions at once, would precipitate a hornet's nest of protest from all sides. Thus the plethora of entrenched groups, each fighting to protect its existing rents and entitlements, augurs ill for any major assault on the tangled maze of distortionary taxes and subsidies, of ill-advised quotas, prohibitions and other regulations, and of inefficient public sector enterprises and bureaucracies that have come to characterize the Indian economic policy scene.

DEEPAK LAL

> Long years ago we made a tryst with destiny, and now the time comes when we shall redeem our pledge, not wholly or in full measure, but very substantially. At the stroke of the midnight hour, when the world sleeps India will awake to life and freedom. A moment comes, which comes but rarely in history, when we step out from the old to the new, when an age ends, and when the soul of a nation long suppressed, finds utterance. It is fitting that at this solemn moment we take the pledge of dedication to the service of India and her people.... The service of India means the service of the millions who suffer. It means the ending of poverty and ignorance and disease and inequality of opportunity. The ambition of the greatest man of our generation has been to wipe every tear from every eye. That may be beyond us, but as long as there are tears and suffering so long our work will not be over (Nehru 1961, p. 13–14).

With these words, Jawaharlal Nehru ushered India to independence on August 15th, 1947, after nearly a century of British rule. Forty years later it is apparent that the world's largest democracy, with a mid-1987 population of 795 million, has far from fulfilled its promise. India's per capita income, for example, is still only about $270.

This paper asks why this should be so. An answer is important not merely because so many of the world's poor are concentrated in

the subcontinent, and hence any appreciable dent in world poverty must entail the alleviation of Indian poverty, but because the India of the 1950s seemed to most observers to have the best prospects of fostering modern economic growth in the Third World. It also seemed likely that this could be done within the rough and tumble of democratic politics in a subcontinental polity consisting of a medley of castes, religions, and languages. The lie would then be given to those who believed that only some authoritarian model of development—like those adopted by Stalinist Russia or Maoist China—could foster development.

All the signs were propitious. India had a potentially large domestic market, a relatively diversified natural resource base, fairly large supplies of skilled and semi-skilled labor, no shortage of domestic entrepreneurship, an efficient bureaucracy—the 'steel frame' it had inherited from the British Raj—and a political leadership seemingly committed to development. Moreover, modern industrialization which dated from the 1850s had given India a head start in those activities that promised a relatively easy means of raising the standards of living of the mass of Indians.

For the past forty years there has been slow and steady economic progress, with an average annual rate of growth of NDP of 3.6 percent per annum. With population growing at about 2.2 percent per annum since the 1960s this has meant per capita income increases of about 1.5 percent per annum.[1] This growth rate has been characterized by one writer as "the Hindu rate of growth" and by another as "hastening slowly."

Throughout this time, unlike the experiences of most other Third World countries and despite some vicissitudes, democracy has been maintained in India. This alone would be a notable achievement. In combination with even a slow rate of economic progress it is remarkable. However, compared with India's *potential*, and with the performance of its neighbors in East and South East Asia, its economic performance has been disappointing.

The causes of this relative failure lie almost entirely in the area of policy. A major theme of this paper is the link between certain ideas and the vested interests they have fostered, which has led to the maintenance of policies that are seen by most observers to be inimical to the achievement of equitable growth.

In this paper we first chart the main features of the economic record of the past five decades, and place it in historical context. In a second section we outline the major policy errors that have led to India's relatively poor performance. The third and final section shows how an interlocked system of economic and political interests has emerged as an unintended consequence of the seemingly high-minded policies of planning with controls—controls partially inherited from the British Raj. This system has made it nearly impossible to implement the fundamental changes in policy that are required to end India's continuing economic stagnation.

The Economic Record

Table 1 summarizes the trend growth rates of gross domestic product and per capita income, as well as those of the three sectoral divisions of the economy (broadly comprising agriculture, industry, and services) between 1950 and 1984.

There was some acceleration in the growth rate of aggregate and per capita GDP by about a half percentage point in the last decade compared to the previous period 1950–51 to 1973–74. But this still only implied per capita income growth at 1.74 percent per annum. The primary sector (agriculture) has been growing at about 2.24 percent (a slight rise over its growth rate of 2.13 percent per annum in the previous 20 years), while the secondary sector's (manufacturing) growth rate has declined from about 6 percent (in 1950 to 1973–74) to just over 4 percent in the 1973–74 to 1983–84 period. Much of the recent mild acceleration in the growth rate has been due to a rise of 1.25 percentage points (to nearly 6 percent per annum) in the growth rate of the tertiary (services) sector. This in turn is largely accounted for by the parasitic subsectors of public administration and defense, which have grown at the rate of 7.44 percent per annum in the 35 years since 1950–51.

Not surprisingly, this modest growth performance has had little effect on making any marked dent on the endemic poverty of India's masses. The percentage of India's urban and rural population below a nutritionally based absolute poverty line for different years between 1956–57 and 1978 for which data are available are charted in Figure 1.[2] From this it is apparent that the incidence of both rural and urban poverty has fluctuated since the post

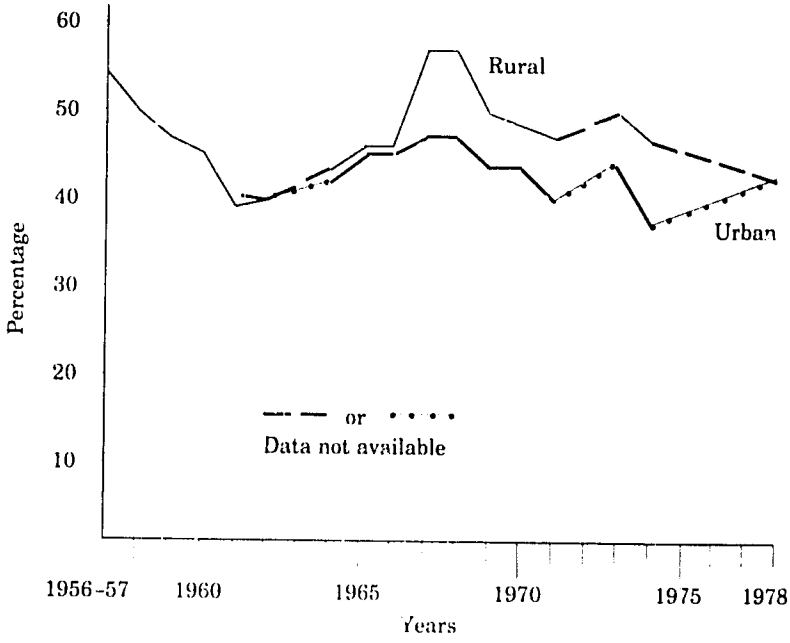
Table 1
Trend Growth Rates

Sl. No.	Period	Trend Growth Rates (% p.a.) of GDP originating in				
		Primary Sector	Secondary Sector	Tertiary Sector	Total GDP	Per Capita GDP
1.	1950–51 to 1973–74	2.13	5.82	4.70	3.53	1.43
2.	1973–74 to 1983–84	2.24	4.15	5.95	3.97	1.74
3.	1961–62 to 1973–74	2.24	4.25	4.26	3.27	1.05
4.	1950–51 to 1983–84	2.18	5.06	4.81	3.55	1.38

Notes:
1. All the GDP estimates are at 1970–71 prices.
2. Trend growth rates have been obtained by fitting a semi-log trend equation so as to get an exponential trend growth rate.
3. Composition of the sectors is as follows:
   Primary sector: agriculture, forestry & logging, fishing and mining & quarrying
   Secondary sector: manufacturing, construction, electricity, gas and water supply.
   Tertiary sector: transport storage & communication; trade, hotels and restaurants; banking and insurance; real estate and ownership of dwellings and business services; public administration and science, other services.

Source: K. Sundaram, S. Tendulkar, "Growth, trickle down effects and poverty," *Frontline*, May 18–31, 1985, pp. 33–40.

Figure I
Percentage of India's Population Below Poverty Line



Source: K. Sundaram, S. Tendulkar, "Growth, trickle down effects and poverty," *Frontline*, May 18–31, 1985, pp. 33–40.

Independence decades without any significant statistical trend. Much of India's poverty is rural (see Dandekar and Rath, 1971; Minhas, 1970), and its incidence is inversely related to real agricultural income per head of the rural population—which fluctuates with the weather! (see Ahluwalia, 1978, 1985 and Lal, 1976). The latest figures on the incidence of poverty for 1983–84[3] are 40.4 percent for the rural and 28.1 percent for the urban sector (as compared with 51.2 percent and 38.2 percent in 1977–78).[4] But as 1983–84 was an exceptionally good agricultural year, this decline is probably part of the same trendless fluctuation in the incidence of poverty depicted in Figure 1.

Though there has been an endless debate among Indian economists about whether growth can be expected to "trickle down" to the poor, clearly, with little growth to trickle down, India's post

Table 2 (A)
Trends in Per Capita Income in India
(1946–47 Prices)

Year	Sivasubramonian	Heston
(1)	(2)	(3)
1868–69	—	120 (73)
1870	—	—
1872–73	—	125 (76)
1890	—	134 (82)
1900	—	145 (88)
1902	147 (90)	147 (90)
1910	157 (96)	154 (90)
1920	164 (100)	164 (100)
1930	171 (104)	171 (104)
1935	166 (101)	166 (101)
1940	169 (100)	169 (100)
1945	163 (99)	166 (101)
1950	—	—

Notes: 1. The figures in brackets in columns 2 and 3 are index numbers of per capita real income (1920 = 100).

2. In columns 2 and 3, the 1902 estimates are three-year averages; for all other years after 1900 they are 9 year averages.

Source: Kumar and Krishnamurthy (1981), derived from Heston (1983).

independence economic record cannot tell us whether or not faster growth would have alleviated poverty. However, if we compare India's growth and poverty alleviation experience with that of other countries (for instance the so-called Gang of Four East Asian countries), it is apparent that India's poor growth performance must be held responsible for its failure to make any marked dent on poverty.[5]

To determine the causes of India's relatively poor growth performance, we need to examine its agricultural and industrial growth since Independence in relationship to its performance during the previous near century of British rule.

Table 2 summarizes the best available estimates of the growth rates of net domestic product and of its component sectors, as well as of per capita income between 1868 and 1945. These show that per capita income increased steadily from 1868 to 1930 at an annual compound rate of growth of 0.6 percent per annum and then declined during the inter-war period. The decline in per

Table 2 (B)

Growth of NDP at 1946–47 Prices for Selected Sectors

(Rs. Millions)

Sector	Average 1868–69	Average 1899–1900	Increases Over the Period
(1)	(2)	(3)	(4)
1868–1900			
Agriculture	15486	20952[1]	35.3%
Manufacturing	41	870	2022.0%
Small Scale Manufacturing and Services	8162	9604	17.67%
Government	1708	1997	16.92%
N.D.P.	30293	38576	27.34%

Sector	Average 1900–04/5	Average 1940–46	Increases Over the Period
(1)	(2)	(3)	(4)
1900–1946			
Agriculture	19737	25966	31.0%
Manufacturing	1009	5524	447.5%
Small Scale Industry	4200	4783	13.9%
Government	2139	5375	151.3%
N.D.P.	42244	66422	57.2%

[1]Average of 1897–1900.

Source: Derived from Heston (1983), Table 4.34.

capita income after 1920 was due to the growth of population (which began in the early part of the 20th century), for net domestic product continued growing at 2.6 percent per annum between 1920 and 1930. Nevertheless, the growth in per capita income during the British Raj was extremely modest and much lower than what has been achieved since Independence. It was also modest compared with the growth of per capita income of various other tropical Asian economies like Burma, Thailand, Ceylon, and Malaya during the second half of the 19th and early part of the 20th centuries (see Lewis, 1970, 1978).[6]

As Table 2 indicates, manufacturing industry grew quite rapidly during the pre-Independence period—although from a very low base. But toward the end of the period its rate of growth was declining. By contrast, agriculture grew relatively slowly throughout the period, at the rates of 0.94 percent between 1868 and 1900 and 0.62 percent between 1900 and 1946. The relative historical performance of Indian agriculture and Indian industry since 1868 can be seen by comparing Tables 1 and 2. Agriculture's trend growth rate has accelerated in the post-Independence period, whereas that of industry has remained unchanged at best. It is, therefore, the increase in the agricultural growth rate (and the dubious rise in those for the parasitical public administration and defense sectors) that is responsible for the modest acceleration in the growth rate of India's per capita income after Independence.

What accounts for this rise in the agricultural growth rate, and why has the industrial growth rate not accelerated?

Agricultural Growth. There are two aspects of India's agriculture that need to be emphasized.

First, until fairly recently Indian agriculture has been faced with a shortage of labor.[7] Thus for instance even in 1965–70, total agricultural area per inhabitant in India was 0.33 hectares compared with 0.06 for Japan (Boserup, 1981, p. 171).

Until fairly recently the mild expansion of population that occurred (until about 1921) was accommodated by extending the land frontier, with relatively unchanged technology and cropping patterns. With the more rapid expansion of population after 1920, more intensive methods of cultivation were called for. Ester Boserup has argued that increasing population pressure on land both induces and facilitates the adoption of more intensive forms of agriculture (with a more intensive use of both labor and capital). She maintains that per capita food output is likely to remain constant in subsistence agriculture. Table 3 reveals some interesting stylized facts about the Indian agricultural economy in the periods 1901 to 1940–41 and 1950–51 to 1970–71.

In both periods, there was a rise in the output-to-labor ratio, which accelerated in the second (post-Independence) period. This was due to a more rapid extension of both the net sown area and the double-cropped area, so that the total cropped area increased

between 1950 and 1971 in rough proportion to the rural work force. More dramatic, however, was the change in the rate of capital formation in agriculture between the two periods, such that the capital/labor ratio, after being stagnant between 1900 and 1941, rose by about 80 percent between 1950 and 1970. Part of this increased capital formation was of the land-saving variety (mainly in the form of irrigation, which makes multiple cropping possible).[8] But, diminishing returns had already set in with the output/capital ratio declining markedly as more capital was applied to a given land area. Clearly, in this second period, as compared with the first, capital was being used to substitute for land, which was becoming scarce, as is evident from the steady decline in the land/labor ratio over the 70-year period.[9]

That the population growth caused by the exogenous decline in mortality after 1921 was driving these changes is supported by the various crude elasticity estimates we can derive for our aggregates, as is done in panel (C) of Table 3. The elasticity of output with respect to labor supply remained relatively constant over the two periods—a cornerstone of Boserup's hypothesis. But the responses to the differing growth rates of labor supply differed markedly in the two periods. Note that, even though the population explosion started in the 1920s, the population bulge did not reach the rural labor supply until the 1950s. Thus, whereas the rural work force increased by 12.6 percent between 1900 and 1940, it rose by twice that much in the twenty years between 1950 and 1971. Based on Boserup's hypothesis, we would expect that rising population pressures would be most potent in inducing a switch to more intensive methods of agricultural production in the post-Independence period (1950 onward).

This is borne out by the elasticity estimates of panel (C) in Table 3. Thus, as noted above, while the elasticity of output with respect to labor supply remained unaltered, that of land and capital with respect to labor supply increased markedly from the pre-Independence period when labor supply growth was slow to the post-Independence period when it was more rapid. The elasticity of double-cropped land with respect to labor supply rose to unity, both through the increase in new land and in multiple cropping (which, of course, is indirectly the result of the increased capital

Table 3

Some Macro-Aggregates for Indian Agriculture

(1901–1971)

	1901	1940/41	1950/51	1960/61	1970/71	% Change 1901–1940/41	% Change 1950/51 1970/71
A. Aggregates							
1. NDP in Agriculture at Constant 1970/71 prices (Rs 10mil)[a]	5291	6961	10168	13575	16989	31.6	67.1
2. Labor Force in Agriculture (mil)[b]	79.3	89.3	103.6	119.1	129.9	12.6	25.4
3. Capital Stock (Rs 10mil Constant 1970/71 Prices)	na	na	5848	9729	13204	na	125.8
4. Net Sown Area (mil Has)[c]	81.42	83.69	118.75	133.20	140.80	2.8	18.6
5. Total Area Sown (mil Has)[c]	93.56	97.85	131.89	152.77	165.79	4.5	25.7
6. % of Net Sown Area Irrigated[d]	16.9	17.6	17.6	18.5	22.1	4.1	25.6
B. Ratios							
1. Output/Labor (Rs/man)	667.2	779.5	981.5	1139.8	1206.6	16.8	22.9
2. Land/Labor (has/man) (i)	1.03	0.94	1.15	1.12	1.08	–8.7	–6.1
(ii)	1.18	1.10	1.27	1.28	1.28	–6.7	0.8
3. Capital/Labor (Rs/man/Index nos.)	(110)	(110)	564.5 (100)	816.9	1016.5	0.0	80.0
4. Output/Land (Rs/Has) (i)	649.8	831.8	865.25	1019.14	1206.61	28.0	40.9
(ii)	565.5	711.4	770.95	888.59	1024.73	25.8	32.9
5. Output/Capital	na	na	1.74	1.40	1.29	na	–25.0
6. Capital/Land (Rs/Has) (i)	na	na	492.46	730.40	937.78	na	90.4
			443.40	636.			

Table 3

(Continued)

C. Elasticities	1900–40	1950–70
1. $\frac{\%\text{ change in output}}{\%\text{ change in labor}}$	2.5	2.6
2. $\frac{\%\text{ change in land}}{\%\text{ change in labor}}$	(i) 0.22 (ii) 0.36	0.73 1.00
3. $\frac{\%\text{ change in capital}}{\%\text{ change in labor}}$	(1.00)	4.95
4. $\frac{\%\text{ change in output}}{\%\text{ change in land}}$	(i) 11.29 (ii) 7.02	3.61 2.61
5. $\frac{\%\text{ change in output}}{\%\text{ change in capital}}$	(2.5)	0.53
6. $\frac{\%\text{ change in capital}}{\%\text{ change in land}}$	(i) na (ii) na	6.8 4.9

Notes: na = not available; ( ) approximation; (i) refers to the net sown area land; (ii) refers to total area sown

Source: Lal (1988), Vol. 1, Table 7.4.

formation in land-saving techniques such as irrigation). But the most important factor keeping the elasticity of output with respect to labor constant has been the marked rise in the capital-to-labor supply elasticity. As much of this capital formation is labor intensive, we can assume, following Boserup, that it is more likely that the increased labor supply has induced this increased capital formation rather than the other way around. This is contrary to much of the conventional wisdom, haunted as it is by the shade of Malthus.

The Boserup theory is also supported by two other pieces of evidence. Thus Dandekar (1988, p. 49) has estimated that,

> per capita NDP in agriculture has practically not increased at all in the past 34 years from 1950–51 to 1984–85. In fact, the log linear curve fitted to the entire annual series of per capita NDP in [the] agriculture sector gives the annual growth rate of 0.0074 per cent with R^2=0.0002, which means that, not only there is no growth but that there are only annual fluctuations.

Second, Boserup's explanation of recent aggregate agricultural performance is also supported by examining regional agricultural performance in terms of what I have elsewhere (Lal, 1988) called the Ishikawa Curve. This is a relationship between land productivity and per farm holding of cultivated land.

Ishikawa (1967) hypothesizes that in the traditional subsistence cultivation of rice, this curve is a rectangular hyperbola. So that, roughly speaking, increases in total output keep pace with rural labor supply (which is the force reducing farm size). In Table 4 we present data by state for 1970–71 on the output of foodgrains per hectare, as well as on the average size of *operational* holdings in columns (1) and (2), and for 1981–82 on the foodgrain yield per hectare in column (3), and for 1976–77 for the average size of holding in column (4). It is commonly recognized that the two Western states of Punjab and Haryana—the areas in which there *has* been a "wheat revolution"—have moved out of the traditional low-level subsistence agricultural process. Hence, in Lal (1988) we excluded these states in statistically estimating the Ishikawa curve for the two periods. We also ran a pooled regression for the two periods. Those results are reported in Table 5.

Table 4
Various Statistics of Indian Agriculture by States
(1970–80)

State	Food Grain Output/Ha. 1970–71 (kgs/ha)	Average Size of Operational Holdings (has)	1976–77 Average Size of Holdings (has)	Average Yield Foodgrains/ha (tonne/ha) 1981–82
1. Andhra Pradesh	781	2.51	2.34	1.24
2. Assam	973	1.47	1.37	0.97
3. Bihar	795	1.52	1.11	0.87
4. Gujarat	864	4.11	3.71	1.07
5. Haryana	1235	4.11	3.58	1.39
6. Himachal Pradesh	1156	1.53	1.63	1.24
7. Jammu and Kashmir	1220	0.94	1.07	1.53
8. Kerala	1426	0.70	2.98	0.98
9. Madhya Pradesh	648	4.00	0.49	1.54
10. Maharashtra	433	4.28	3.50	0.72
11. Mysore	830	3.20	3.66	0.74
12. Orissa	883	1.89	1.60	0.91
13. Punjab	1861	2.89	2.74	2.67
14. Rajasthan	686	5.46	4.65	0.55
15. Tamil Nadu	1342	1.45	1.25	1.52
16. Uttar Pradesh	998	1.16	1.05	1.19
17. West Bengal	1224	1.20	0.99	1.07

Source: Lal (1988), Vol. 1, Table 11.5.

Table 5
Statistical Estimates of the Ishikawa Curve

Y — foodgrain output tonnes/hectare
X — average size of operational land holdings (hectares) in each state

(1) 1970–71	Y=0.553 + .66 (1/x) (0.082) (0.119)	R^2 = 0.70 F = 30.33 n = 15
(2) 1981–82	Y=0.783 + .423 (1/x) (0.113) (0.137)	R^2 = 0.42 F = 9.52 n = 15
(3) Pooled	Y=0.676 + .521 (1/x) (0.071) (0.093)	R^2 = 0.53 F = 31.35 n = 30

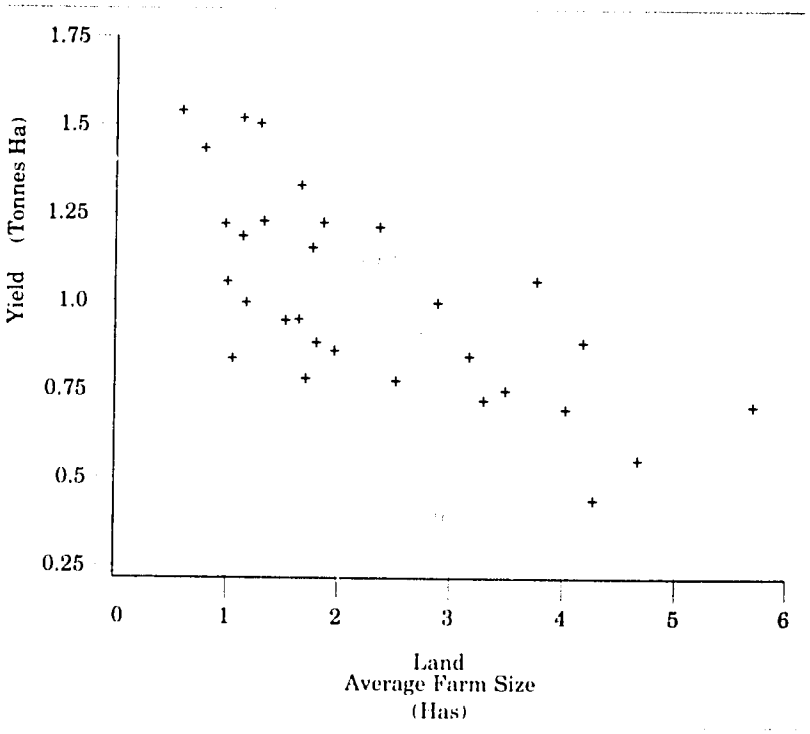
Note: Figures in brackets are standard errors.
Source: Lal (1988), Vol. 1, Chp. 11.

The statistical fit of the Ishikawa curve is very good for the 1970–71 period, but less so for 1981–82. The latter is to be expected because the available data for the land variable for the 1981–82 regression is for an earlier year, and also is not for operational holdings. The scatter diagram for the pooled regression and the computed Ishikawa curve are shown in Figure 2. From this, it appears that apart from Punjab and Haryana, the other states are still in the Boserup phase, with most of them crawling up the Ishikawa curve as population expands.

Thus, apart from the few Green Revolution States, much of the agricultural growth in India has been induced by population growth.[10] Differences among regions in the performance of agriculture can be explained by ecological conditions, which have until now permitted only a few regions to benefit from the Green Revolution.

These ecological conditions underlie geographical differences in rainfall, the second important factor explaining the recent performance of Indian agriculture. Within the subcontinent, the amount of annual rainfall is extremely variable. Broadly speaking, rainfall increases markedly as one travels eastward (see Map 1). With increasing rainfall the climatic conditions become suitable

Figure 2
The Ishikawa Curve 1970 to 1981–82
(excluding Punjab and Haryana)



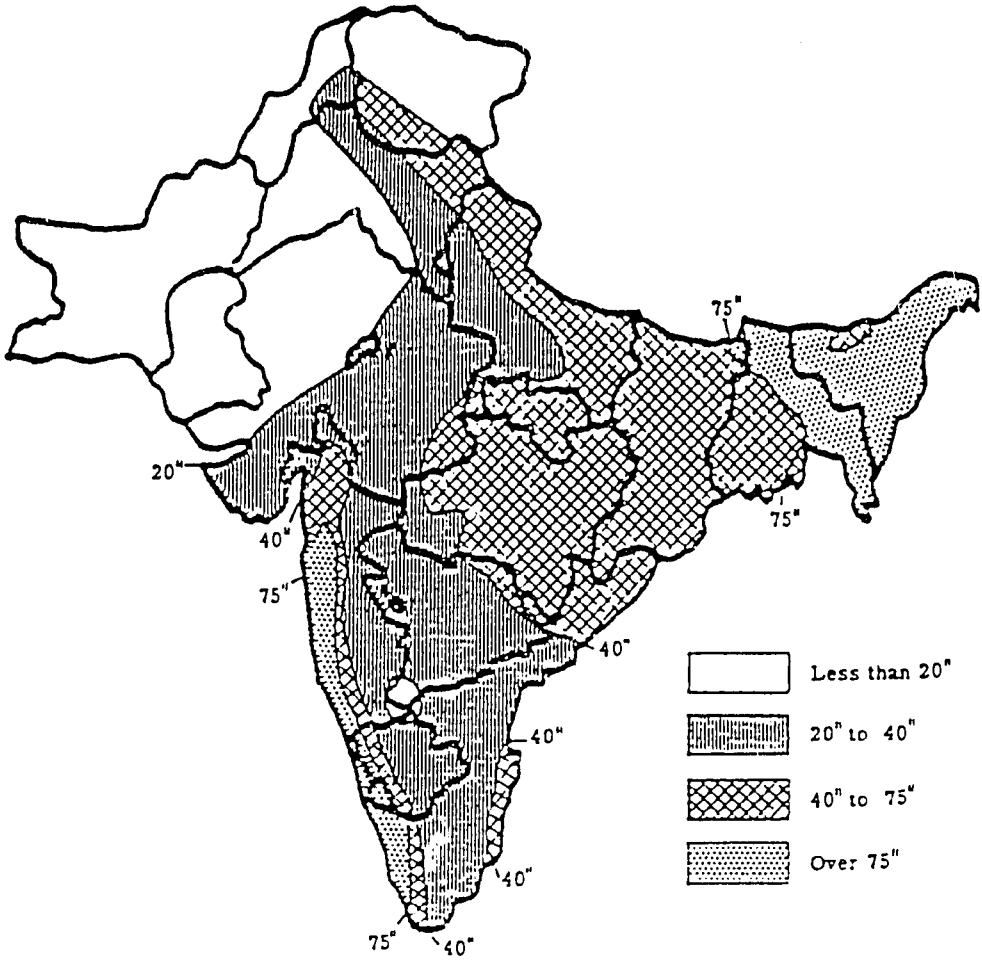
Source: Lal (1988), Vol. 1, Fig. 11.2 (b).

for growing rice, which as the higher-yield foodgrain is the favored crop (see Dharm Narain, 1965, chp. 7). Thus, in the well-watered middle and deltaic regions of the Gangetic plain, rice has been grown for millennia. Moreover, it has been grown under flood or silt-based systems of rice culture[11] yielding about 1.3 metric tons per hectare without much expenditure of capital or labor.

This subsistence rice economy was established in the central and eastern parts of the Gangetic plain in ancient times. It remained unchanged for millennia, and was highly productive by contemporary standards because it allowed a fairly large rural and urban population to be maintained by the agricultural economy.

To move to the next higher stage of rice cultivation in this region requires massive investments in irrigation, drainage, and flood

Map 1
Mean Annual Rainfall and Regions of British India



Source: Blyn (1966), Fig. 6.2.

control to achieve a controlled water supply throughout the life cycle of the rice crop. This would raise yields to 2.3 metric tonnes (in terms of paddy/hectare) (see Ishikawa, 1967, p.77).

By contrast, the areas with lower rainfall (mainly in the West and South) can move directly to the more productive forms of rice culture once irrigation from either ground or surface water sources is provided. Thus, the private and social returns to irrigating the low rainfall areas are higher than in the high rainfall Hindu heartland. This has meant that most of the expansion in irrigation and the introduction of new high-yielding varieties of seeds and fertilizers—on which most of the recent agricultural growth has been based—has taken place in the West, in Haryana and Punjab, and in the Southern states of Tamil Nadu and Andhra Pradesh. Paradoxically, the ecologically richest parts of the subcontinent, the central and eastern Gangetic plain and delta—the best watered from natural rainfall and the areas where fertility is periodically renewed by the silt deposited in the flood plain—are likely to be the most difficult to develop agriculturally. For these regions the advent of modern labor intensive industrialization provides an alternative means for raising the demand for labor and thus alleviating their ancient poverty.

Industrialization of India. For historical perspective, it is important to note that India was one of the pioneers of Third World industrialization, having begun the process in the 1860s at a time when laissez-faire and free trade were the cornerstones of economic policies for Britain and its colonies. The rate of growth of Indian industry (10.4 percent per annum) during the latter part of the 19th century (1868–1900) has not been bettered since. Yet the conventional view cites the historical experience of industrialization in India as an example of stunted development during the colonial laissez-faire period, in contrast with the post-Independence promotion of a large and diversified industrial base through a network of the most *dirigiste* industrial policies outside the Communist world. Balogh succinctly expressed this popular view of the effects of 19th century free trade and laissez-faire on the development of Indian industry:

> The destruction of the large and prosperous Indian cotton

> industry by Britain without any compensatory long-run advantage to India simply cannot be explained in these terms: it is altogether different from an event such as the end of the silk industry in Coventry. In the latter case there *was* compensatory expansion. In the former case there was not (p. 11).

Recent research has cast serious doubt on the empirical bases of these historical perceptions fed by influential Marxist and nationalist writings. We cannot go into detail here,[12] but the following points need to be noted. First, there is little doubt that the introduction of cheap Lancashire textiles (between 1812 and 1830) destroyed the Indian export trade in cotton textiles, which according to estimates by Maddison, had amounted to about 1.5 percent of national income in 17th century Moghul India.[13] The decline of India's trade in textiles was inevitable in the face of the technological revolution taking place at that time in the West. There was as a consequence some undoubted destruction of industry-specific factors of production in the traditional (handloom) textile industry. But in the 1850s, with the establishment of modern textile mills using Indian entrepreneurship and capital and imported machinery, manufactured cotton exports from India began to expand. Also, by the late 19th century employment in manufacturing industry (primarily in textiles) increased. With the development of a modern textile industry, Indian products gradually recaptured both the domestic and foreign markets they had lost in the mid-19th century to Lancashire.[14] Thus, there was at most a relative decline in the employment and output of the handicraft sector, as is borne out by the fact that handloom production remains a substantial industry in India. It would be incredible if the current size of the handloom industry (supposedly destroyed in the 1820s) were to be explained as the result of government promotion since Independence in 1947.

The growth of modern industry was not, moreover, confined to cotton textiles during the second half of the 19th century. The first jute mill was set up in 1852, only three years after the first cotton textile mill, and the first steel mill was established by the Tatas in 1911. Other industries, including paper and engineering goods, were also established during the free trade and laissez-faire period. The overall rate of industrial growth was higher in India (4–5 percent per year between 1880 and 1914) than in most other

Table 6

Some Summary Statistics for India

(A) Manufacturing Growth Rates - Value Added (constant prices)

	1868 — 1981 percent per annum
1868–1900	10.36
1900–1913	6.00
1919–1939	4.80
1956–1965	6.90
1966–1979	5.50

(B) Rates of Growth of Employment in Manufacturing

	percent per annum
1902–1913	4.43
1919–1939	2.29
1959–1965	3.60
1966–1979	3.50

(C) Rates of Growth of Capital Stock in Manufacturing

1959–1965	13.60
1966–1979	6.80

Sources: (A) Derived from data in Heston (1983) and Sivasubramanian (1977) and post World War II rate of growth from the national accounts.

(B) Pre independence from Sivasubramanian (1977) Post independence from Ahluwalia (1985) Table A.5.2 & 3.

tropical countries, and also exceeded that of Germany (4 percent). As Lidman and Domerese have observed:

> An index of industrial production based on six large-scale manufacturing industries more than doubled from 1896 to 1914. By 1914 the Indian economy had developed the world's fourth largest cotton textile industry and the second largest jute manufacturing industry (p. 320–21).

Nor was India's performance in exporting manufactures to be sniffed at during this first phase of industrialization. By 1913 about 20 percent of Indian exports were of modern manufactured goods. Total exports amounted to 10.7 percent of national income—a share not reached either before or since this free trade

Table 7
Index of Manufacturing Production
(Base 1913 = 100)

Country	Year 1938	Country	Year 1938	Country	Year 1938
South Africa	1,067.1	India	239.7	Roumania	177.9
U.S.S.R.	857.3	Sweden	232.2	Norway	169.2
Japan	552.0	New Zealand	227.4	Canada	161.8
Greece	537.1	Chile	204.2	Latvia	158.0
Finland	300.1	Netherlands	204.1	Germany	149.3
		Denmark	202.1	Czechoslovakia	145.5
		Italy	195.2	Hungary	143.3
		Australia	192.3	U.S.A.	143.0
		World	182.7	Austria	127.0
				U.K.	117.6
				France	114.6
				Poland	105.2
				Belgium	102.1
				Switzerland	82.4
				Spain	58.0

Source: League of Nations, *Industrialization and Foreign Trade*, USA, 1945, Table III, derived in Ray (1979), Table 3, p. 16.

and laissez-faire period. It was India's agricultural export growth rate which was disappointing. While aggregate exports grew at 3 percent per annum between 1883 and 1913, the growth rate of agricultural exports was only 1.4 percent per year. In contrast, Japan's agricultural exports grew at an annual rate of over 4 percent during the same period.

As Table 6 shows, this initial burst of growth was not matched by Indian industry in the 20th century. But even in the 1913–38 period, Indian industrial growth was above the world average (see Table 7). However, unlike the pre-1913 period which was broadly one when free trade and hence "border prices" ruled, the period after the First World War saw the introduction, largely for reasons of fiscal expediency, of a system of discriminating protection. Whereas the market price based growth rates of industrial output (value added) in the free trade period were likely to have reflected genuine improvements in efficiency, much of the later growth was "artificial," at shadow prices, reflecting social costs which were substantially lower than market prices. This growth took place

Table 8

Parameters of Gompertz Curve Fitted to Trends in Various Industrial Sector Variables

$(Y = k(a)^{b^t})$

	k	a	b
Industrial Production			
1882–1900	506.13	1.07	1.17
1900–1945	368.67	1.32	1.04
1953–1979	457.09	0.11	0.95
Industrial Employment			
1902–1946	11511.4	0.058	0.986
1953–1976	2200.1	0.001	0.995
Capital Stock in the Non-agricultural Sector			
1948–1967	185.13	25.15	1.02

Note: In interpreting these results,

(i) if $a < 1$ and $b < 1$, the Gompertz curve is increasing at a decreasing rate of growth, with an upper asymptote;

(ii) if $a > 1$ and $b > 1$, the curve is increasing at an increasing rate of growth, with a lower asymptote.

Source: Lal (1988), Vol. 1, Table 11.11.

behind barriers of protection, which gradually grew in scope and intensity after 1913.

Nevertheless, even if we judge performance by crude and inadequate criteria, such as the rate of growth of manufacturing output, employment, and investment, the performance during the pre-1913 free trade period was better than in the protectionist 1919–39 period. Of the industries that were growing in the protectionist period, a proper evaluation of the social return to investment is only available for sugar (see Lal, 1972). This shows that such investment was socially unprofitable.

Comparing the periods 1900–1913 and 1913–39, industrial employment grew twice as fast under free trade as during the protectionist period (see Table 6). Though the investment *rate* did not rise, the increase in the volume of investment, combined with a slower expansion of industrial employment, meant a rise in the capital intensity of industrial production. Moreover, if the whole period of protection (from 1913 until the late 1970s) is considered

Table 9
Total Factor Productivity Growth Estimates
(1959–60 to 1979–80)

	Percent per annum
India	–0.2 to –1.3
Korea	5.7
Turkey	2.0
Yugoslavia	0.8
Japan	3.1

Source: I. J. Ahluwalia (1985), pp. 132–35. The estimates other than India, are Ahluwalia's based on converting Nishimizu and Robinson's (1982) estimates derived from a gross production function to a value-added production function as for India.

then by fitting Gompertz curves to the relevant time series data,[15] it appears from Table 8 that there has been an accelerating trend in the capital employed in industry and a decelerating trend in the labor employed. Since Independence, a decelerating trend has also developed in industrial output. Thus, there has been a rising capital labor ratio (see Table 6) in this labor abundant economy!

Even more telling evidence on the growing relative inefficiency of Indian industry is provided by the estimates of total factor productivity growth (TFPG) in the 1960s and 1970s for India, Korea, Turkey, Yugoslavia, and Japan, summarized in Table 9. It also does not appear that there was any break in this rate of decline in TFPG in India in the mid-1960s, when the Indian industrial sector obviously began to stagnate in terms of output growth. We do not have capital stock data for the earlier periods to ascertain whether the negative rate of factor productivity growth in India is just a post-Independence phenomenon or whether it goes back to the start of the protectionist period in 1913. Our tentative hypothesis is that the latter is likely. Further support for the declining social profitability of industrial investment in India is provided by estimates of social rates of return on Little-Mirrlees lines that we have made elsewhere (Lal, 1980) and summarized in Table 10.

Table 10
Average Social Rates of Return in Indian Manufacturing
(ASI) (1958–68)

Year	SWR = W (%)	SWR = O (%)	SWR = 0.6 W (%)
1958	1.6	36.0	15.4
1960	1.6	39.0	16.6
1961	2.4	37.0	16.2
1962	0.9	29.0	12.1
1963	1.9	29.0	12.7
1964	1.4	26.0	11.2
1968	-6.1	22.6	5.4

Notes: SWR = Shadow Wage Rate; W = Market Wage
Source: Lal (1980), p. 44.

The Policy Framework

It is thus in its failure to industrialize efficiently—despite its head start—that the explanation for the relatively poor post-war performance of the Indian economy must be found. This failure can almost wholly be blamed on the policies pursued since Independence, which at least in two instances—the policy of protecting and maintaining distorted and highly restrictive industrial labor markets—pre-date Independence. They formed part of the general consensus that had emerged among politicians, intellectuals, and businessmen (and, it should be said, economists in the West) at the time of India's independence.

This view had misread the record of the Raj and blamed its twin policies of laissez-faire and free trade (at least during the 19th century) for much of India's continuing poverty. Moreover, in its twilight years, largely on grounds of expediency, the British Raj's commitment to laissez- faire and free trade had been considerably eroded. The Second World War years in particular saw a marked rise in *dirigisme* in the running of the Indian economy. The rationing, price controls, and various other aspects of a bureaucratic command economy, which might have been a necessary expedient during wartime, provided the bureaucracy (which had been partially Indianized) with fresh avenues to assert their

power, as well as a faith in *dirigisme*, which was to outlast the circumstances in which it arose. Central planning was the new panacea.

We need not go into the details of the *dirigiste* system of controls that were set up to legislate planned targets (see Lal, 1980). The following points may, however, be noted.

First, based in part on the Stalinist model of development and an extremely pessimistic assumption about Indian export prospects, a heavy industry biased import substitution strategy of industrialization was the centerpiece of Indian planning. *Second*, as agriculture with its myriad producers and spatial dispersion was not easily amenable to the planners desires, it was industry that bore the brunt of the control system that was set up. *Third*, the instruments used to legislate the investment and output targets laid down in the plans (themselves of doubtful provenance) were a complex system of industrial licensing and foreign exchange, price and distributional controls. Independent India is thus best characterized as the Permit Raj. *Fourth*, an expansion of the public sector to man the 'commanding heights' of the economy in producing 'basic goods' and infrastructure became a cornerstone of public policy.

Even by its own terms of reference, Indian planning for the industrial sector has been a dismal failure. There have been large discrepancies between the actual and planned pattern of investments. While no optimality can be adduced to planned targets, it is noteworthy that, as economists would expect, the ultimate pattern of investment and output has been ultimately determined by the relative private profitabilities of different industries. These, in turn, have been affected primarily by the trade control system and the various 'ad hoc' and economically irrational price and distributional controls on a large number of commodities. The ensuing pattern of industrial investment has borne little relationship to that required either for promoting the planned pattern of investment or for equalizing the relative private with the relative social profitability (from a broad economic viewpoint) of industrial investments.

This is best seen in terms of the effects of the trade controls in the form of quantitative restrictions on imports that were instituted after the first serious foreign exchange crisis since its independence that India faced in 1956–58.

After the first serious foreign exchange crisis in 1956–57, a complex system of quota restrictions on imports was instituted. All requests to import were subjected to administrative scrutiny, and even the most petty imported items required a license. Moreover, import licenses were not available for goods that could be produced within India. This led to effective rates of protection that exceeded 200 percent on average, with a high variability of rates around the average. Imports of capital and intermediate goods were allowed while those of consumer goods were banned, with the consequence that, on balance, effective rates of protection of, and hence incentives to invest in, the indigenous consumer goods industries were higher—an outcome at odds with the stated policy of promoting heavy industry! And since the effective rates of exchange were much higher for importers than exporters, there was a strong bias against exports.

The practice of screening requests for imports according to the so-called indigenous availability criterion led to the complete insulation of domestic production from foreign competitive pressures. Coupled with an overall excess of demand in the economy, this meant that producers had little incentive to reduce costs. The rules of thumb used by administrators to allocate imports were based on the principle of fair and historic shares and the installed capacity of producers. The result was a freezing of the relative outputs and market shares of industries and firms. It also led to excess capacity as producers rushed to expand ahead of their requirements, knowing that their licensed capacity determined their import allocation and hence volume of production. Most heinous of all, because the structure of effective protection implied a relative cheapening of capital goods, producers had an incentive to choose relatively more capital-intensive methods of production at the expense of employing more labor. At the same time, the protection afforded to industry as a whole artificially raised the price of manufactured inputs into the agricultural sector relative to the price of its output. This had deleterious effects on agricultural growth.

At various stages during the 1960s and early 1970s these harmful effects of the existing trade control system—particularly on exports—had begun to be acknowledged, even in India. Export incentives, aimed at redressing the bias against exports, were introduced. Not surprisingly, the partial removal of this bias led to

a spurt in exports, as economists who were not mesmerized by foreign exchange bottle-necks had always predicted.[17] In many instances, however, the *dirigiste* impulse was not stifled. India matched its highly complex and bureaucratic system of import allocation with an equally complex system of export incentives. The major instrument used was an import entitlement for exporters in the form of import licenses whose premium provided the exporter with a subsidy. The effect was to create a host of new distortions in the export sector.[18] A simple policy of export maximization was pursued; any producer wishing to export found a government willing to grant him an import entitlement whose premium was sufficient to equalize the relatively high domestic costs with the foreign prices of his product. Since the entitlements were usually tied to the import content of exports, these schemes subsidized import-intensive exports rather than those with a high domestic value added. The widespread practice of over-invoicing exports, coupled with different effective exchange rates for exports and imports, meant that a number of goods with a high import content were exported for a price in foreign currency that was below the foreign currency cost of the imports embodied in them! India thus ended up by pursuing import substitution and export promotion without reference to economic costs, guided only by the belief that "India should produce whatever it can and India should export whatever it produces."[19] The inefficiency, waste, and corruption that the Indian trade control system has engendered are incalculable.

These pervasive microeconomic distortions introduced by the Indian planning system were compounded by the inefficient operations of the chosen agent of industrialization in India—the public sector.

The public sector has burgeoned. By 1979, the gross fixed assets of the central public sector (which is defined to include only those enterprises wholly owned by the State, and also excludes the railways and power utilities) exceeded that of the private sector in industry by over 16 percent. In basic industries, the public sector has a near monopoly of domestic production, as it does in power generation, rail and air transport, life and general insurance, and banking. In the 1970s the promotional role of the public sector in developing new basic industries was extended through

Table 11
Relative Profitability of Public Sector
(1974–75)

Industry	Ratio of Value Added to GCE at Market Prices		Ratio of Value Added to GCE at Border Prices	
	Public	Private	Public	Private
Engineering	11.42	23.12	10.57[a]	18.95[a]
Chemicals	6.26	21.26	4.01[a]	10.07[a]

[a]No attempt has been made to calculate gross capital employed (GCE) at border prices. These figures are valid therefore only for intersectoral comparisons.

Source: Jha (1985), Table 2.

nationalization and bailouts for declining and/or sick industries (e.g., some 145 textile mills) many in the consumer goods sector, and in coal mining. Thus, increasingly not only is industrial entry prevented by industrial licensing and the attendant bureaucratic controls, but the exit of the inefficient is also being ruled out through the absorption of sick industries by the public sector.

Judged by conventional accounting criteria the performance of the public sector has been abysmal compared with the private sector. The latter's performance in itself is not particularly noteworthy if we judge it by its social profitability. However, for two industries in which there are both private and public enterprises, Table 11 provides some estimates of their relative private and social (at world prices) profitabilities. The relatively poor public sector performance is manifest.

Even more serious has been the failure of the public sector to provide an adequate flow of services in areas where there is a case for public investment. Despite massive investment in power, Indian industrial development continues to be bedeviled by power shortages, in large part because of a woeful underutilization of existing capacity (see Henderson).

This underutilization of capacity is in turn due to another set of distortions in the functioning of the industrial sector, which is from an economic viewpoint one of the worst legacies of the British Raj. This concerns the system of labor laws enshrining rights for industrial labor which have raised its cost well above its social opportunity cost to Indian industry. This artificial rise in the price

of India's most abundant resource, together with the implicit cheapening of capital which has ensued from the foreign trade and other industrial and price controls, have meant that the extant incentives favor the use of capital rather than labor in Indian industry. This is a prime cause for the failure of Indian industry to generate adequate industrial employment growth and poverty alleviation on the scale that many Far Eastern countries have shown so successfully.

Part of the problem leading the Indian textile industry in the early part of the 20th century to seek protection, arose from the 1881 introduction (soon after similar rights had been granted to workers in Britain) of legislation to protect industrial labor from perceived abuses. The first of these factory acts was aptly described as "the result of agitation (in the UK) by ignorant English philanthropists and grasping English manufacturers" (Bhattacharya, p. 171). As usual in such alliances, the selfish English protectionist interest was better served by the legislation than the altruism of the philanthropists. By effectively raising the cost of labor they provided an incentive to producers—an incentive to choose relatively capital intensive techniques in industrial production. As these laws only applied to the large-scale sector, they presented an entry barrier to small-scale producers seeking to expand. They thus began that fragmentation of the industrial sector in India into the industrial caste system that now exists—with special size categories of industries, each with its own specially legislated conditions of employment and controls on output and investment, leading to variously and differentially protected segments of the labor force, as well as of the population of industrial firms.

The rights granted to Indian labor in 1881 hobbled the Indian textile industry in competing for exports, and later the domestic market, with the industry of Japan. Lower Indian wages reflected lower efficiency. Whereas the Japanese textile industry as well as those in most of the Gang of Four were built on using female labor working two shifts a day, "the use of female labor on such a scale was inconceivable in Bombay, nor did the labor laws permit such long working hours" (Ray, p. 67). Indian textile producers demanded protection and got it. The large home market, increasingly

protected from imports, provided an easy life and gave little incentive to increase efficiency.

By 1950, in marked contrast to Taiwan, Hong Kong, Singapore, and Korea—the Gang of Four—India

> had built up one of the most comprehensive labor codes to be found in any country at her level of economic development. The standards laid down by the ILO had been accepted and measures were being worked out to attain these standards" (Bhattacharya, p. 186).

No quantification of the adverse effects on the relative industrial performance of India with that of the Gang of Four—with their relatively free industrial labor markets—is possible. But

Table 12

Industrial Disputes in India

(1921–1980)

Year	No. of Stoppages	No. of Workers Involved	Workdays Lost
1921	396	600,351	6,984,426
1925	134	270,423	12,578,129
1930	148	196,301	2,261,731
1935	145	114,217	973,457
1940	322	452,539	7,577,281
1945	820	747,530	4,054,499
1950	814	719,883	12,806,704
1955	1,166	527,767	5,697,848
1960	1,583	986,268	6,536,517
1965	1,835	991,000	6,470,000
1971	2,752	1,615,000	16,546,000
1972	3,243	1,737,000	20,544,000
1973	3,370	2,546,000	20,626,000
1974	2,938	2,855,000	40,262,000
1975	1,943	1,143,000	21,901,000
1976	1,459	737,000	12,746,000
1977	3,117	2,193,000	25,320,000
1978	3,187	1,916,000	28,340,000
1979	3,048	2,874,000	43,854,000
1980	2,856	1,900,000	21,925,000

Source: Karnik (1978), Appendix II, pp.409–410 until 1969, thereafter *Statistical Abstract of India and Basic Statistics Relating to the India Economy.*

Table 13
Characteristics of Sample Firms

Firm Product	Firm Size	Technology	Training by the General	Provided Firm Specific	Pinching of Labor By and From Other Firms	Casual Labor Type Screening of Labor	Use of Existing Workers to Hire Labor	Promotional Ladders	Labor Legislation and Trade Union Pressure Cited as Determinants of Wage Structure	New Neo-classical Type Cost-Minimizing Reasons Given for the wage Structure	Would They Themselves Organize a Trade Union to Ease Supervisory Problems?
1 Shoes	Large	Medium	Yes	Yes	Others pinched	No	No	No	Yes	No	No
Oil Mills	Large	High	Yes	Yes	Others pinched	Yes	No	Yes	Yes	Yes	Yes
Soap	Small	Low	Yes	No	Others pinched	No	Yes		Yes	No	No
4 Petrochemicals	Large	High	Yes	Yes	Pinched others	No	No	Yes	Yes	Yes	Yes
5 Conglomerate	Large	Medium to High	Yes	Yes	Others pinched	Yes	No	Yes	Yes	Yes	No
6. Printing	Medium	Medium	No	Yes	Pinched others	Yes	Yes	No	Yes	No	No
7. Printing	Small		No	Yes	Others pinched	Yes	Yes	No	Yes	No	No
8 Rubber Plant and Plantation	Large	Medium to Low			Pinched others	Yes	Yes	No	Yes	No	No

Source. Lal (1988), Vol. 2, Table 9.2.

some judgments on the effects of the costs of this labor legislation and the attendant growth of trade unionism in India can be formed through Tables 12 and 13. The former shows the number of industrial disputes and mandays lost since the rise of trade unions in 1921 in India. As early as 1928, nearly 32 million mandays were lost through stoppages, a figure nearly as high as that of about 44 million mandays in 1974 and 1979.

Table 13 is based on the results of a series of in-depth interviews I conducted in India in 1980 of about 20 firms covering both large and small-scale industries, and covering the technological spectrum from sophistication (petrochemicals) to simplicity (soap making). Lal (1988) provides details of the interviews, while Table 13 summarizes the responses on some questions concerning the factors that influenced the producers' choices regarding the recruitment and training of labor, as well as the effects of existing labor legislation and trade unionism on their operations. The dominant impression from the interviews was that firms were behaving as cost minimizers, where the major component of labor costs were perceived to be those attached to "troublemakers" and the resulting impediments to the maintenance of labor discipline resulting from the complex labor legislation granting various legal rights to industrial labor and trade unions. The neoclassical hierarchical labor market reasons (see Lal, 1979 for a review) for promotional ladders and the usefulness of trade unions as a tool for managing labor did, however, seem to be important for the larger and technologically more sophisticated firms. Despite this, it would be fair to say that most industrial producers look upon existing labor laws and legal rights granted to trade unions as major (though unquantifiable) costs in their employment decisions.

These two elements of the economic environment—the current highly complex and differentiated effective protection rates facing Indian industry and the equally complex labor laws it confronts in hiring and firing labor—seem to me to be crucially different in India and the Gang of Four. Taken together with the system of industrial licensing and all the special reservations for industries of different sizes and types, and for different groups of workers, a vast politically determined set of entitlements has been created in Independent India, which defies any economic rationale.

Table 14
Rate of Savings & Capital Formation

	Gross Domestic Savings as % of GDP	Net Domestic Savings	Net Inflow of Foreign Capital as % of NDP	Net Domestic Capital Formation as % of NDP
1961–62	13.1	8.4	2.3	10.7
1970–72	16.8	12.0	1.0	13.0
1978–79	24.7	20.0	0.1	20.1
1980–81	22.6	17.6	1.7	19.3
1985–86	22.8	16.7	1.9	18.6

Source: National Income Statistics.

Savings, Capital Output Ratios, and Macroeconomic Balance

The costs of these politically determined entitlements have until recently been largely manifest in the form of what John Lewis many years ago called a quiet crisis in India. The microeconomic distortions created have led to lower realized returns on the investments made than would have been possible in their absence. Table 14 indicates that there has been an impressive rise in savings (from 13.1 to 22.8 percent for gross and from 8.4 to 16.7 percent for net savings from 1961–1985) and in capital formation (which has been largely financed through domestic sources). The rate of net capital formation has risen from 5.5 percent in 1950–51 to 18.6 percent of domestic product in 1985. In 1950 foreign capital inflow was nil and in 1985 it was about 2 percent of domestic product. In this period the economy's capital-output ratio has risen from about 2.6 in the 1950s to 6.25 in the 1980s (see Dandekar, 1988). It is this declining productivity of investment, due both to an inefficient pattern of investment and serious underutilization of the output capacity that has been created (particularly for major non-traded intermediate inputs produced by the public sector) that largely explains India's lackluster growth performance.

But until recently this productivity crisis due to the policy induced distortions in the working of the price mechanism had not been compounded by loose macroeconomic policies. However, as

we have argued elsewhere (Lal, 1987a), one of the surprising dynamic effects of excessive *dirigisme* is a sort of Laffer curve of government interventions, so that after a certain stage, increased government intervention instead of increasing the area of government control diminishes it. The gradual expansion of politically determined entitlements creates specific 'property rights' to current and future income streams for various favored groups in the economy. As these entitlements are implicit or explicit subsidies to these groups, they have to be paid for by implicit or explicit taxation of other groups. This increasing tax burden leads at some stage to generalized tax resistance, avoidance and evasion and the gradual but inevitable growth of the parallel or underground economy. The government's fiscal position worsens, and faced with inelastic or declining revenues but burgeoning expenditure commitments, incipient or actual fiscal deficits become chronic.

India with its tradition of Gladstonian public finance has avoided these chronic macroeconomic imbalances until recently. But the creation of a "rent-seeking" society through the microeconomic distortions introduced by public policy in the last three decades is gradually leading to the fiscal crisis of the State so common in many other developing countries (and some developed ones!). This can be seen first in the marked expansion in the underground or

Table 15

Indian Public Finances

(as percent of GDP Market Prices)

Year	Revenue	Expenditures				PSBR
		Developmental	Non-Developmental	Capital	Total	
1960–61	11.39	5.37	5.51	8.54	19.42	8.42
1970–71	14.43	5.79	8.29	7.90	21.97	7.54
1980–81	20.08	10.89	8.63	11.20	30.73	10.65
1981–82	20.61	11.04	8.83	10.25	30.12	9.51
1982–83	21.04	11.76	9.51	10.26	31.52	10.48
1983–84	20.05	11.73	9.54	9.64	30.91	10.76
1984–85	21.13	12.86	10.33	10.23	33.42	12.30
1985–86	21.19	12.67	11.61	10.01	34.30	12.30

Note: PSBR – Public Sector Borrowing Requirement, has been obtained by adding Dandekar's figures for 'Capital receipts' and 'Deficit Financing' in his Table 10.

Source: Derived from Dandekar (1988), Tables 7, 8, 10.

black economy in India. Notoriously difficult to measure statistically, all observers agree on its growth since the 1950s, and on its current, cancerous hold on all aspects of Indian life. Statistical estimates of its size vary from about 40–45 percent of GDP (see Mohammed and Whalley, 1984) to 18–21 percent of GDP (see Report of the National Institute of Public Finance & Policy, March 1985).

Second, as Table 15 shows vividly, the tax receipts of the government, which nearly doubled between 1960–61 to 1985–86 (when they were about 22 percent of GDP), have been stagnating in the past few years. At the same time the aggregate expenditure of the government has risen from about 19 percent in 1960–61 to over 34 percent of GDP in 1985–86. This rise has been largely due to a rise in non-developmental expenditure, (as the capital expenditure on development has stagnated at about 10 percent of GDP). The imbalance between government expenditure and revenues represents the public sector borrowing requirement (PSBR) of the Indian government.[20]

This PSBR has been growing alarmingly and is estimated to be over 12 percent of GDP in 1985–86, so that the public debt as a percentage of GDP has risen from about 27 percent in 1950–51 to 63 percent in 1985–86. The rising interest burden now accounts for about 15 percent of the revenues of the central and state government. Compared with many other developing countries, however, India's *external* debt to GDP ratio is fairly modest. Thus in 1984–85 external liabilities were only 13 percent of the total net liabilities of the central and state governments, yielding external debt as 7.8 percent of GDP. So there is a lot of ruin of the Latin American type left in the Indian economy!

Thus, summarizing this section, though there are some worrying signs of an incipient fiscal crisis in India, to date the mistakes of Indian policy mainly have been microeconomic. It is in the interlocking effects of a vast network of bureaucratic controls (industrial licensing, foreign trade, and price controls, together with an inefficient public sector) that the causes of the poor industrial performance of India must be sought. Since the mid-1970s the inefficiencies generated by these policy induced distortions have been recognized by many observers and government officials. Hes-

itant steps at liberalizing the system of trade, industrial and price controls have been made.

Recent Attempts at Liberalization. When Rajiv Gandhi succeeded his mother as Prime Minister of India in November 1984, it appeared from his public pronouncements and from some of the actions of his government that he was aware of the need to liberalize the Indian economy if India was to realize its potential. The need was for rapid labor-intensive industrialization—the only means of redressing the ancient poverty of its masses. In 1985 and 1986 the government seemed to have grasped the nettle of liberalization. It eased industrial licensing, allowing industries to choose their product mix and to expand capacity as they saw fit. The aim was to provide internal competition (while still maintaining fairly tight import controls). As the government's *Economic Survey 1985–86* puts it:

> It has become increasingly apparent over the last few years that industrial growth is hampered by unnecessary procedural delays . . . and controls . . . Moreover, uneconomic scales of production coupled with an excessively sheltered industrial environment have fostered monopolistic profits, high costs and products of low quality (p.3).

While removing some of the barriers to entry created by the industrial control system, the government (alarmed by its growing role in saving 'sick' industries) also sought to: "ease exit of unviable units" (*Economic Survey*, ibid, p.34). But here, as the government acknowledged, it was hamstrung by the labor "rights" that had been granted by the Raj and perpetuated by post-Independence governments.

Equally, the intention announced in 1986 to move away from trade controls in the form of quantitative restrictions to tariffs was welcome, as was the intention "to reduce the enormous multiplicity of nominal and effective rates of protection conferred by the customs tariff structure" (ibid, p.63). But the translation of these good intentions into action was at best hesitant and at worst largely window dressing. Thus, while some industries could now import capital goods without having to fulfill the indigenous

availability criterion, at the same time there was a shuffling of various items from various lists whose net effective protection effect is at best uncertain.

It was in the area of fiscal policy that the most important measures of liberalization were undertaken by the Rajiv Gandhi government, under its able Finance Minister, V. P. Singh. Direct taxes on both persons and corporations were reduced. Despite the Jeremiahs, direct tax revenue collections *rose* by 24 percent (ibid., p.4). The government has committed itself to pre-announcing its fiscal intentions in a Long Term Fiscal Policy Statement. This envisaged the introduction of a modified value-added (MODVAT) system of indirect taxation, the modification being the multiplicity of VAT rates that is envisaged! Nevertheless, these fiscal measures together with enhanced tax enforcement were aimed at reducing the black economy. At first, the signs were propitious, until the Finance Minister's zeal in tracking down "tax evaders" and "corruption" led him into ordering politically sensitive investigations that cost him his job in early 1987.

By then the Gandhi government was embroiled both in corruption scandals and escalating regional "rebellions." At the same time the embattled Prime Minister was forced to retreat into the wheeling-dealing mode of his mother's regime in order to maintain his hold on power. The result has been that the economic liberalization program is now on hold, and its future appears bleak. This is in no small part due to the regrouping of the ideological and vested interests that have stood to lose from liberalization, and to those who have used the Prime Minister's recent political troubles to launch a movement against his new economic policies. It is these ideas and interests we need to discuss—as we do in the next section—if we are to understand why India adopted policies so inimical for its development, and why it finds changing course so difficult even when many policy makers themselves know and want the changes that are required.

Ideas, Interests, and Dirigisme

To understand the stranglehold of the Permit Raj on the Indian economy, particularly its industrial sector, one must be aware of the ancient, even atavistic attitudes to merchants and commerce

which provide the continuing ideological ballast for its continuation. These attitudes, moreover, were given a convenient modern garb by Fabian socialism.

At least since the 6th century B.C., (as we have argued elsewhere, Lal 1988) India has had a substantial and prosperous mercantile class. Yet since its ideological vehicle, the republican anti-casteist sects of Buddhism and Jainism lost out to Brahminical caste polities in the early Christian era, the ideals and values of merchants have never had much appeal to India's rulers. The contempt in which merchants and markets have traditionally been held in Hindu society was given a new garb by the Fabian socialism which so appealed to the newly westernized but traditional literary castes of India.

Not all politicians who were the inheritors of the Raj showed this "aristocratic" contempt of business and commerce. Gandhi, a Vaishya (bania-merchant caste) by birth, certainly did not, but after designating Nehru as his successor he withdrew into the spiritual shadows and, within six months of having achieved Indian Independence, he was dead at the hands of an assassin.

Nehru was a towering personality and an intellectual, but also a Brahmin. He professed to being a socialist, and was much impressed by the *dirigiste* example of the Soviet Union in transforming a backward economy into a world power within the lifetime of a generation. He had imbibed the Fabian radicalism of the inter-war period, and, with so many British intellectuals, was an ardent advocate of planning—which was identified with some variant of the methods of government control instituted in the Soviet Union.

But his was not just a fantasy dreamt up in an intellectual's ivory tower. Many businessmen, who identified their relative success during the last half of the Raj with the gradual erosion of the policies of laissez-faire and free trade, ended up espousing planning as a panacea for India's economic ills. It was nationalist businessmen who produced the early precursors of post-Independence Indian plans, in their so-called Bombay Plan. While Nehru certainly, but the nationalist businessmen more doubtfully, admired the Soviet model, Nehru balked at the suppression of liberty that the Stalinist model of development entailed. He hoped, instead, as a good Fabian socialist, to combine the "order" and "rationality" of

central planning with the preservation of individual and democratic rights in India. Moreover, he was, at least in his own mind, a socialist. But it is interesting to see what socialism meant for him. In his *Autobiography*, he writes:

> ... right through history the old Indian ideal did not glorify political and military triumph, and it looked down upon money and the professional money-making class. Honor and wealth did not go together, and honor was meant to go, at least in theory, to the men who served the community with little in the shape of financial reward. Today (the old culture) is fighting silently and desperately against a new and all-powerful opponent—the *bania* (Vaishya) civilization of the capitalist West. It will succumb to the newcomer....But the West also brings an antidote to the evils of this cut-throat civilization—the principles of socialism, of cooperation, and service to the community for the common good. This is not so unlike the old Brahmin ideal of service, but it means the brahmanization—not in the religious sense, of course—of all classes and groups and the abolition of class distinctions.[21]

A more succinct expression of the ancient Hindu caste prejudice against commerce and merchants would be difficult to find. The British, unfortunately, had in their later years and despite the commercial origins of their rule in India, taken over most of the Indian higher-caste attitudes to commerce. The brown sahibs, mostly upper caste Hindus like Nehru, found it congenial to adopt these traditional attitudes. What is more, socialism now provided them with a modern ideological garb in which to clothe these ancient prejudices. Commercial success, as in the past, was to be looked down upon and the ancient Hindu disjunction between commercial power (and, increasingly, political power) and social status, was to continue.

This identification of socialism with both a contempt for commerce and businessmen, and by association that prime symbol of the mercantile mentality—the market—was to color economic policy making in the new independent India. For socialism in India has merely provided the excuse for a vast extension of the essentially feudal and imperial revenue economy, whose foundations were laid in ancient India, and whose parameters successive

conquerors of India have failed to alter (See Lal, 1988).

Thus, Nehru identified socialism with bureaucratic modes of allocation,[22] with all that it implies in terms of the power and patronage afforded to the ancient Hindu literary classes which formed much of the bureaucracy. But, in this, Nehru was merely echoing the views of his Fabian mentors.

Thus, in *The Discovery of India*, he quotes with approbation a statement of R.H. Tawney's that, "the choice is not between competition and monopoly, but between monopoly which is irresponsible and private and a monopoly which is responsible and public." He then expresses the belief that public monopolies will eventually replace monopolies under his preferred economic system, which he labels "democratically planned collectivism." Under such a system, he notes:

> An equalization of income will not result from all this, but there will be far more equitable sharing and a progressive tendency towards equalization. In any event, the vast differences that exist today will disappear completely, and class distinctions, which are essentially based on differences in income, will begin to fade away (Nehru, 1965, p.555).

That he envisaged this socialist Utopia to be established by the supplanting of the price mechanism, whose essential lubricant is private profit and utility maximization, is evident from the following continuation of the above passage:

> Such a change would mean an upsetting of the present-day acquisitive society based primarily on the profit motive. The profit motive may still continue to some extent but it will not be the dominant urge, nor will it have the same scope as it has today.

We need not go into the details of the *dirigiste* system of controls and planning that was progressively set up.[23] The major point that needs to be made is that the control system was based on the predilections of engineers and not economists. This has continued to plague discussions of economic policy in India, not least those concerning various aspects of labor-market performance, such as unemployment. An engineer is trained to think in terms of essen-

tially a fixed-coefficients world. The problem of trade-offs, and the consequent notion of opportunity costs, which is central to an economist's thinking, is alien to the conventional engineer's thought processes.[24] If coefficients are really fixed, then, of course, prices do not matter and the system of planning without prices, based on quantitative targets to meet fixed "needs" becomes rational. Oddly enough, because this happens, for historical reasons, to be the implicit method underlying the material balance-type planning in the Soviet Union, many socialists, seeking to achieve their Valhalla by imitating the Soviet Union, have just assumed that the world has little substitutability in production and consumption, and hence, the Soviet-type planning methods are economically rational.

By contrast, the Gang of Four—and in particular, Korea—were luckier to have been colonized by the Japanese and to have set up Japan as a model for their development. The famed "rational picking of industrial winners" by the Koreans was little more than an imitation of the early stages of Japanese development. As this coincided with an efficient development path based on their comparative advantage, their *dirigisme* has not (except in the mid-'70s) proved to be dysfunctional. Moreover, the Japanese model with its close alliance between commerce and government, does not lead to that contempt of business so characteristic of India's elite.

These attitudes are not just confined to self-serving politicians who have found in the Indian brand of socialism enormous opportunities for increasing their power and patronage. They carry over to the intellectual community as well. A. Rudra, a distinguished Indian economist, is a good example. He would probably deny most of the assertions made by the "new orthodox" school, yet he hankers after the same panaceas, and objects to the Green Revolution strategy because it promotes the profit motive in agriculture. He writes:

> the task of developing agriculture is being entrusted to the greed and the acquisitive spirit which motivates capitalists. *In traditional Indian agriculture greed was located and condemned in the professional money lender, the speculative trader, etc.* An important discovery of the proponents of the strategy is that the same greed, the same acquisitive spirit, may also be

> found latent in the cultivators; all the components of the strategy are aimed at further encouraging this spirit....This clearly stated aim seems to have been achieved. The 'Holy Grail' which the richer farmers are pursuing is the way of life of the urban middle class; the latter in their turn are craving the comforts of the consumption society of the West (Rudra, 1978, p. 387, emphasis added).

Here is an obvious echo of Nehru's sentiments quoted earlier.

This, then, is the crux of the explanation why so many Indian intellectuals dislike markets and the price mechanism—these depend upon, even if they do not promote, the qualities of greed and acquisitiveness which have always been scorned by the literary and politically powerful castes in India. It is this Brahminical attitude, today imbibed by a large part of the Westernized stratum of Indian society, which is at the root of that seeming *traison de clercs* that apparently has been taking place in India at least over the last two decades.

Their contempt for business, moreover, is joined by a breathtaking ignorance of mercantile activity among the literary castes. This is the result of the endogamous and occupationally segregated caste system. In more socially mobile societies there is always a fair chance that the rulers and their courtiers would have had some mercantile relatives who would have provided them with some knowledge of the nature of trade and commerce, and the importance of risk taking and entrepreneurship in the process of development. The caste system has, however, cocooned the Indian literary castes from any such influences.[25] The danger this represents to the prospects of India's economy was masked till fairly recently, when as a result of the Administrative Revolution (which has greatly extended the hold of the government on the economy), these literary castes have increasingly intervened in spheres outside their traditional purview. Their inbred contempt and ignorance of merchants and markets keep them from recognizing the failures of past interventions and from promoting the evolution of a market economy (albeit controlled through measures which supplement the price mechanism) in India. Unfortunately, such a market evolution is a key factor in determining the future economic prospects of India.

Table 16
Employment in the Public Sector

	1901	1911	1921	1931	1951	1960*	1978*
Total	1,918,916	1,712,958	1,630,365	1,448,336	2,162,117	5,498,000	12,943,000

*These figures refer only to civilian employees, and *are* exclusive of public sector employment in railways and manufacturing.

Source: Lal (1988), Vol. 1, Table 9.2.

There are, however, some hopeful signs that this resulting unworldliness of Indian rulers concerning trade and commerce might be changing. What scribblers cannot achieve, inflation and an excess supply of bureaucrats (see Table 16 for the growth of Indian bureaucracy) might at least engender. For one of the remarkable features of the changes in the relative wage structure in post-Independent India has been the decline in civil service salaries (particularly of those at the top). The corresponding labor market signals have been received by the children of these literary castes who, from casual empircism, seem to be turning toward non-traditional but more lucrative careers in business and politics. As "policy makers" in India become less contemptuous and ignorant about trade and commerce, they may begin to substitute *bania* for *brahmin* ideals and might at last begin to dissolve the intellectual bulwarks of Indian economic stagnation.

One unintended consequence of the Permit Raj, however, was to make it more difficult to shift the prevailing equilibrium of interest groups. This conferred on bureaucrats vast discretionary power over individual production and investment decisions. The bureaucratic control system created rents for the specific allocations of goods required for investment and production. These rents could be allocated to whomever the bureaucrats and politicians favored. Vast resources have been expended on developing 'connections' and attempting to obtain these rents by producers whose efforts would and should otherwise have been directed toward production. The resulting controls on entry and exit in industry meant that a clientistic business class has grown up fearing competition and favoring the continuation of the Permit Raj as much as the Fabian ideologues. There is thus a new powerful group of industrialists who would oppose, as they would be hurt by, any liberalization of

controls.

Moreover, India, unlike most of the Gang of Four, has established import substitution industries in intermediate and capital goods industries. This has made it difficult for India to switch to the type of export promotion policies that Korea adopted when it switched development strategies in the 1960s. Korea successfully offset the biases of the continuing import control system by permitting exporters to work under an essentially free trade regime—allowing them to obtain intermediate inputs at "world prices."

India cannot easily emulate Korea in this, in part because past import substitution policies have created significant industries producing intermediate and capital goods at home, albeit at immense social cost. Thus, when attempts are made to offset the bias against exports, they run afoul of the "indigenous availability" criterion, which protects domestic *producers* of intermediates. These producers have successfully prevented a Korean style export policy from emerging. Their power to block liberalization is strengthened by the fact that (in pursuance of the desire of the Indian planners to put the "commanding heights of the economy" in the public sector) most of these intermediate and capital goods are produced by government enterprises.

Moreover, these public enterprises have provided employment sinecures for those well-connected to the politicians in power. So, apart from the natural resistance that can be expected from the current public sector employees, the politicians are unlikely to give up a source of patronage by liquidating loss-making public enterprises.

In addition, the power to generate rents has allowed incumbent politicians to generate campaign funds for their political party. It has been alleged that the modest liberalization undertaken in the early years of the Rajiv Gandhi regime was possible because an alternative source of campaign funds had been discovered in the form of kickbacks from foreign defense suppliers. The ongoing scandal concerning the Swedish Bofors company has still not resolved this issue, but the link between the creation of politically generated rents and campaign funds is well known.

Apart from those intellectuals who continue to identify socialism with controls, there is an unholy alliance of politicians, businessmen, bureaucrats, and, not least, industrial labor (protected

by the barriers to exit of inefficient firms instituted as part of Indian "socialism"). Such an alliance makes it extremely unlikely that a marked movement toward economic liberalization which will hurt their interests is likely in the near future. Equally, without the dismantling of the Permit Raj it is difficult to see how India can raise its industrial growth rate without which any marked alleviation of Indian poverty will be nearly impossible.

NOTES

1. See Dandekar (1988) who fitted a log linear trend to the whole series of NDP estimates from 1950–51 to 1984–85 and estimated the annual growth rate as 3.57 with an R^2=0.993.
2. In the Draft for the Five Year Plan (Vol. 1, p. 6), this is given as RS.40.6 per capita per month at 1972–73 prices for all India.
3. Based on the NSS Consumer Expenditure 38th Round for 1983.
4. See *Seventh Five Year Plan* 1985–90, Vol. 2, p. 4.
5. Thus Korea and Taiwan's per capita GDP grew at the rate of 6.5 percent per annum between 1963–85. The incidence of poverty in Korea in 1977 was 18 percent of the urban and 11 percent of the rural population. The comparable figures for India in 1979 were 40.3 percent urban and 507 percent rural. See World Bank: *Social Indicators of Development 1986.*
6. Thus Lewis estimates that per capita income in these countries was growing at about 1–1.5 percent p.a. between 1880–1913, which was as fast or faster than in Western Europe at the time.
7. In Lal (1988) I argue that the caste system in India evolved in the 5–6th century B.C. as a second best method of tying scarce labor to the land, to allow the relatively labor intensive methods of cultivation (primarily rice) developed in the Indo-Gangetic plain to be utilized.
8. This can be seen by comparing the growth of total crop area (row 5, Table 3A) and the growth of the percentage of the net sown area irrigated (row 6, Table 3A). These are equal in each of the two periods suggesting that multiple cropping (which accounts for the difference between net and total crop area) grew *pari passu* with irrigation.

9. But note that the land/labor ratios in the two periods are not strictly comparable because in the earlier period the acreage figures are for British India, and in the latter for the Indian Union. British India includes areas of post-Independence Pakistan and excludes various native Indian States, whereas the figures for the Indian Union exclude the former but include the latter.
10. There is also little empirical support for the Malthusian fears embodied in Arthur Lewis's notion of surplus labor for Indian agriculture. There is a large and controversial literature on the subject, surveyed in Lal (1988), Vol. 2. The upshot of the rigorous estimates of the supply and demand elasticities for agricultural labor in India by Bardhan (1979, 1984), Rosenzweig (1978, 1984), and by Evenson and Binswanger (1984) is that both the demand and supply of labor in Indian agriculture are fairly inelastic—contrary to the Lewis hypothesis which requires a nearly perfectly elastic supply of labor at some traditional wage. Within Boserup's framework, without some fundamental shift in agricultural technology, we would expect that, as population expanded and the rural economy moved up the Ishikawa curve, these elasticities would remain unchanged. Rightward shifts in the supply curve of labor would be accompanied by rightward shifts in the labor demand curve to maintain a relatively constant rural real wage and hence per capita rural product. Around this long-term trend, however, there would be large short-term shifts (in both directions) in the labor demand curve due to climatic variability, which, given the low wage elasticities of both labor demand and supply, would lead to large short-term movements in real agricultural wages around a nearly constant long-term trend. This in fact seems to have been the pattern of India's historical rural wage trends pieced together in Lal (1987).
11. Ishikawa (ibid., p. 71–73) classifies the rice culture in Asia into four patterns. The *first* is based on the pattern of floods in some of the principal riverine alluvial plains and deltas in Asia. This is the pattern in the Ganges delta. The paddy is sown with the first monsoon rains, it ripens when the floods that follow are at their heights, and is mown after the water has receded. In the

second pattern, followed in the middle reaches of the Ganges, the crop is grown outside the flood season but relies on the utilization of the silt carried by the floods. In the *third* pattern the crop is grown under rainfed conditions or under the system of water fallow. This is the case in the areas adjoining the Western Ghats. The *fourth* pattern is based on both irrigation and flood control to achieve a controlled water supply throughout the life of the crop. This system allows proper manuring and other cultural practices which bring a marked rise in the per hectare yield of rice. This has been the pattern in Tamil Nadu, where for millennia irrigated rice has been grown using water from wells and tanks. Its paddy yields of around 2.7 tons per hectare are comparable to those in Japan during the Meiji era.

12. See D. Kumar (1983) and Lal (1988) for a fuller discussion and references to this literature.
13. Maddison, p. 55.
14. Maddison estimates ". . . in 1868, Indian mills supplied only 8 percent of total cloth consumption; in 1913, 20 percent, in 1936, 62 percent; and in 1945, 76 percent. By the latter date there were no imports of piece goods" (p. 57).
15. See Rudra (1978) for the reasons why this form of curve fitting is desirable, as it enables one to judge whether growth is accelerating, decelerating or constant over the relevant period.
16. This criterion stipulated that any good which could be supplied by a domestic producer could not be imported.
17. Bhagwati and Srinivasan.
18. Lal (1980).
19. Bhagwati and Desai, p. 466.
20. This is the sum of what in Indian public finance terminology are called 'capital receipts' (which are essentially public borrowing from the general public) *and* deficit financing (which is borrowing from the Reserve Bank of India).
21. Nehru (1936), pp. 431–32.
22. See Lal (1985) for a fuller discussion of the validity of identifying 'socialism', as it has been in India, with dirigisme and bureaucratic modes of allocation.
23. These are discussed in Lal (1980), which also discusses the optimal forms of government intervention, given the well-

known limitations of a policy of laissez-fair, and the consequent need to deal with various forms of 'market failure.'

24. Although it should be said that economists, brought up on various fixed-coefficients planning models, have found it easy and natural to slip into this engineering frame of mind, even when they have explicitly been concerned with various economic trade-offs.
25. It may be useful to quote the conclusion of the major historian of the Indian middle classes: "Since India's tradition of caste authoritarianism fitted in well the Imperial scheme of things, Indian bureaucrats, who usually belonged to higher castes, were quick to step into the shoes of the British who left India in 1947. Bureaucracy thus continued to retain its hold over business in India and is increasing its hold with the extension of the state's economic function. This may be beneficial to the educated middle classes, since as officers of Government they step in as controllers of nationalized industries without any personal stake in them. But is is no gain to the country as a whole. The system of state control, in fact, stifles the growth of entrepreneurial elements which India has in the past badly needed to speed up production. Traditionally recruited from the literary classes, with no business acumen, civil servants are most unsuited to accelerate production in Indian conditions" (Mishra, p. 340).

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