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Economic Growth in India--1955/56 - 1960/61

The attached paper started out as a comparison of the various unofficial drafts now available on the Indian Second Five-Year Plan. I am afraid it turned out to be more nearly the broad lines of an alternative formulation (even more unofficial!). The comparative material on the Federation of Indian Chambers of Commerce, Indian Institute of Public Opinion, Mahalanobis and "official" programs has been relegated to a brief appendix, which will be duplicated and circulated shortly. Comments are welcomed.

This paper (in a later draft) is meant to be a final section of an analysis of current developments in India.

ERRATA SHEET

Economic Growth in India--1955/56 - 1960/61

W. Malenbaum

1. Page 15, Table IV: a) Under "Second Plan" 2.8% (as given in First Plan) becomes 2.3%,
b) 6.2% (FICC) becomes 7.6%,
c) 9.1% (IIPO) becomes 7.3%;
d) delete asterisk two and note.
2. Page 39: line 4: 0.84 becomes 1.03,
line 5: 1.95 becomes 2.24,
line 14: Rs. 950 crores becomes Rs. 1150 crores,
line 15: .9:1 becomes 1.08:1.
3. Page 39, footnote 2: change "reversed the" to "used a lower".

Section . The Economy in 1960/61

A. Employment Goals for the Second Five Year Plan

Basic data on "means of livelihood", as of March, 1951, were published in the Census of India, 1951. Major groupings are shown in Table I. To make these comparable to estimates of income, the figures need to be adjusted

Table I - Population and Working Groups, 1951
(millions)

Total Population	Workers			Non-earning dependents	
	Total	Self-supporting	Earning depend.		
Urban	<u>61.9</u>	<u>21.5</u>	<u>18.7</u>	<u>2.8</u>	<u>40.4</u>
m.			16.6	1.5	15.2
f.			2.1	1.3	25.2
Rural	<u>294.7</u>	<u>120.8</u>	<u>85.7</u>	<u>35.1</u>	<u>173.9</u>
m.			70.6	11.9	67.4
f.			15.1	23.2	106.5
Total	356.6	142.3	104.4	37.9	214.3

upward by a small amount, from a total population basis of 356.6 million to 361.2 million persons.¹ Corresponding working force figures are given by the National Income Committee. From these statistics rough projections were made to approximate the working force in later years.

1. The Census tabulations exclude 4.41 million persons in Jammu and Kashmir. Omitted too were 229,000 persons in the Punjab, where records were lost in a fire at the Census Tabulation offices in Jullunder. The final total (361,239,000) still excludes the Part B tribal areas of Assam, for which information was not obtained. (These areas contained approximately 600,000 people in 1951).

Table II. Working Force (millions, as of March)

	Total Population	Working Force	Non-earning Dependents
	Urban 62.5	21.7	40.8
	Rural 298.7	121.5	177.2
A: 1951	Total 361.2 ^(a)	143.2	218.0
	Urban 71.3	24.8	46.5
	Rural 309.9	126.4	183.5
B: 1955	Total 381.2 ^(b)	151.2	230.0
	Urban 86.3	29.9	56.4
	Rural 324.9	133.3	191.6
C: 1961	Total 411.2 ^(b)	163.2	248.0

(a) Totals are given by the National Income Committee. Rural-urban breakdowns are based on pertinent ratios of Table I.

(b) Population assumed to increase by 5 million persons annually, the absolute increase shown in official estimates for the years through 1954, and suggested by the Indian Census Commissioner for the years through 1961. Working force has been expanded by 2 million annually, the figure estimated for the years 1948/49-1950/51. Urbanization has been assumed to increase from 17.3 per cent in 1951 to 18.7 per cent in 1955 and 21 per cent in 1961. Finally, the ratio of urban working force to urban population in 1951 was maintained for later years.

The assumptions of Table II yield a working force of 163.2 million in 1961, 12 million more than at present, i.e. there will be 10 million more people in the working categories over the Second Five Year Plan period.¹ It may also be assumed that urban populations will continue to have a higher ratio of non-earners, and that urban workers will continue to include a smaller percentage of earning dependents (persons only partially self-supporting) than do rural people.

The current unemployment situation, on which there are admittedly few firm estimates, was summarized by the Finance Minister in December, 1954, as involving "some 15 million people out of the total working force of about 15 crores (vide Table IIB) who may be regarded as available for absorption in new lines." The bases for this estimate are preliminary indications from surveys in process that "in some of our urban areas 8 to 10 per cent of the employable population needs to be drawn into productive employment." Using the estimates of Table IIB, this would suggest some 2.5 million urban unemployed. There would thus be 12.5 million more in the rural areas, about 10 per cent of the rural labor force. If an unemployed person is taken to mean one who actually is aware of his lack of work, or of his small contribution to output on his job, and who is prepared to accept alternative employment, this would appear to be a high

1. "Official" estimates for the Second Plan occasionally assume an increase of 9 million workers through natural growth over this period. (See, for example, Mr. Deshmukh's statement in the Lok Sabha on Dec. 20, 1954, and Mr. Nehru's to the National Development Council on May 5, 1955). These projections seem conservative, given recent experience, the growing absolute size of the total population, and the possibility that population may increase more rapidly as a result of declining death rates (with birth rates lagging behind).

estimate of actual unemployment in rural India. (However, it is important to remember that 18 per cent of rural workers are non-agricultural; here the unemployment ratio may be well above 10 per cent.) On the other hand, the 10 per cent figure is probably a low estimate of underemployment, defined as the number of persons that could be withdrawn from the rural labor force without reducing current levels of rural output, production techniques remaining unchanged. Since it is important to reduce underemployment in India, it may be appropriate to use the 10 per cent figure (15 million persons) as the number of people in the present working force for whom new job opportunities must be considered.

The Finance Minister has approached the problem in terms of absorbing these 15 million over a ten year period, beginning with the Second Five Year Plan. Over the 11 years, beginning with 1955/56 (the last year of the present Plan) and extending through March 1966, this means the creation of employment opportunities for some 22 million persons who will be added to the labor force by natural growth, plus the 15 million who are currently unemployed. An average of about 3.5 million new jobs is required each year, beginning now.¹ While some allowance might be made for a gradual expansion in the capacity of the economy to absorb the unemployed, it would appear realistic to plan now for such a rate of providing new employment opportunities.

1. This figure differs markedly from Mr. Deshmukh's target of 2.4 million new jobs each year. Partly this is due to his lower estimate of natural increase in the labor force. Primarily, however, it is due to the fact that he provides for the absorption of only 3 million of the presently unemployed during the Second Plan. (Urban unemployed essentially?) This leaves 12 million of the present unemployed for the Third Plan period (1961-66), an average absorption of almost 5 million persons annually in those years.

Over the 6 year period from now until the end of the Second Plan, therefore, what are the alternative possibilities for employing 21 million additional persons? At the most general level, it might be observed that there are now some 25 million workers in urban areas (of whom about 2.5 million are unemployed). If essentially urban employment were being considered, this would mean increasing the employment opportunities there by more than 90 per cent. It would also mean the addition of almost 19 million more workers to urban areas, as against the 5 million assumed in Table IIC, and which already reflected a continuation in the acceleration currently discernible in the rate of rural-urban migration. However, instead of the urban areas attaining 21 per cent of total population in 1961, they would need to increase to 31 per cent (assuming families moved with workers). This might of course occur through a more concentrated growth in towns and smaller cities, although the present trend is for the larger cities to grow more rapidly. In any case, the assumption of providing urban employment would mean almost a doubling of the urban-concentration ratio in India over the decade 1951 to 1961. There would undoubtedly be tremendous employment opportunities in housing and in such social overhead fields as the supply of transportation, water, sanitation facilities, etc. In 1951, for example, there were 10.31 million houses in urban India. On the average, these accommodated 6 persons, i.e. more than an average family unit. (A governmental committee had estimated an urban shortage of 1.84 million houses in the pre-Plan period--a figure which corresponds reasonably with the doubling-up ratio.) Programs for slum clearance were given considerable attention in the First Five-Year Plan. With at least a doubling of urban

population, therefore, it is reasonable to assume that there would be need for at least 10 million more urban housing units in 1961, as compared with 1951. On the basis of the information available here, it seems unlikely that as many as 1 million of these had been constructed, both by private groups as well as public authorities, by April 1, 1955. Conservative cost estimates for the housing which the Central Government believed would meet minimum standards were Rs. 2200 per tenement in smaller towns, and Rs. 4500 in the multi-storied buildings of larger cities. It has been noted that population growth has been most marked in the latter group. Even if the average cost were taken at the figure of Rs. 3500,¹ new investment for urban housing alone, i.e. apart from investment directly in productive facilities, would aggregate Rs. 3150 crores for the 6 years from now until the end of the Second Five-Year Plan.

Employment might be sought more generally in the non-agricultural field. There are currently some 45-50 million persons whose means of livelihood fall in this sector, and 20-25 million of these are now in rural areas. Twenty-one million new non-agricultural jobs mean an expansion in employment opportunities over the six-year period by about 50 per cent (since this takes into account the 5 million non-agricultural workers who are now unemployed). If it is assumed that 6 or 7 of the 21 million new jobs are provided in the urban areas (thus approximating the urban concentrations postulated in Table IIC), rural non-agricultural employment

1. Some figures by private industrial concerns on the average cost of housing for their workers show a range of Rs. 2700 to Rs. 5200 for the minimum-cost units. These expenditures are frequently exceeded. (See, for example, figures for the paper industry cited by Eddison, The Indian Paper Industry, Center for International Studies, 1955).

would have to increase by more than 70 per cent. It might be observed that a large part (perhaps 35 per cent) of the present non-agricultural employment in rural areas is in cottage and handicraft enterprise. These enterprises, as the Finance Minister points out, are currently "fighting a somewhat uncertain battle for existence." The immediate problem is preventing more unemployment. On the housing front again, even if urban population expanded more moderately, as shown in Table IIC, housing investment in the urban areas would need to aggregate about Rs. 1000 crores (3 million houses at Rs. 3500). In addition, of course, rural housing for the expanded population would be needed. In 1951, rural housing was on the whole already overcrowded, although not to the extent of the urban position. On the other hand, rural housing of minimum but adequate standards can be built at a cost of about Rs. 300 per unit, provided no account is taken of direct labor inputs.

Given the present estimate of unemployment in agriculture, and perhaps even larger figures, if account is taken of underemployment, it is generally considered that the new employment opportunities ought to be found outside of agriculture, as in the assumptions above. However, the Government of India thinks in terms of producing its food requirements, rather than depending upon imports. Growth of population (by 30 million people in the next six years) will therefore require expanded output--at least by 1 1/2 per cent per year. While such an expansion need not require a corresponding increase in the number of persons effectively employed in agriculture, it seems reasonable to expect at least partial absorption of the currently unemployed in agriculture over the period. The number of

new non-agricultural job opportunities needed over the six years might thus be reduced to closer to 3 million per year. This is perhaps the most conservative of the three alternative--and general--employment possibilities in a program to eliminate unemployment by 1966. A rough calculation can be readily made of the (minimum) expansion needed in Indian output. Assuming that productivity per worker in non-agricultural fields remains unchanged, non-agricultural output must be increased by 42.5 per cent over the next six years.¹ Agricultural output would need to increase by about 10 per cent. Such increases, in 1948/49 prices, imply 445 crores of income per year, on the average, over the next six years. In these prices, this would mean for 1960/61 a domestic product of Rs. 12,665 crores, of which Rs. 5360 crores (42.5 per cent) would arise from agriculture, and Rs. 7305 crores from the rest of the economy. Comparative figures are shown in the following table.

TABLE III

Domestic Product, 1948/49 prices, Rs., crores

	1950/51 ^{a)}	1953/54 ^{b)}	1954/55 ^{c)}	1960/61 ^{d)}
Agriculture	4340 (49%)	4730 (48.7%)	4870 (48.7%)	5360 (42.5%)
Other	4530 (51%)	4970 (51.3%)	5130 (51.3%)	7305 (57.5%)
Total	8870 (100%)	9700 (100.0%)	10000 (100.0%)	12665 (100.0%)

a) Final Report of the National Income Committee, New Delhi, p. 143

b) CENIS estimates. See Malenbaum, "India's Domestic Product," Indian Economic Journal, Jan., 1955, p. 248. (Figures have been converted to a factor cost basis, to make them comparable). In the text above, calculations are based on 1953/54 relationships, although the argument applies to 1954/55, for which estimates have not yet been made. Official estimates for 1953/54 have recently become available. The new total is Rs. 9950 crores. Sectoral components are not available for this total. They would undoubtedly raise the present estimates for 1960/61.

c) Assumed, but probably low, given the official figure for 1953/54.

d) As per text.

1. If, as seems desirable, output per man in these sectors is to increase, total product would of course need to be expanded even more.

In per capita terms, allowing for population as in Table IIC, the fuller-employment objective would show a product of Rs. 308, as against Rs. 246 in 1950/51, a minimum increase of 25 per cent per capita over the decade.¹

In the above, particular attention has been focussed on the employment objective, and along the lines suggested by the government. Growing unemployment (and indeed maintenance of the status quo) provides a constant threat to the strengthening of democratic institutions as they were visualized in the Indian Constitution. From an economic point of view, underutilization of available labor would appear to constitute at least a temporary loss of resources that might be used for economic growth. On the other hand, employment as an objective in itself may well be self-defeating in the pursuit of accelerated income growth. Each unit of labor tends to be more productive as it is combined with increasing amounts of other resources. Given the relative scarcity of some of these other resources (land, capital), it may well be that a larger increase in domestic product can be achieved by the application of available capital, say, with only a limited part of the unutilized labor. A maximum increase of output in a given period may thus be inconsistent with a maximum increase in employment. (The gap between maximum output and output with more "labor intensive" methods may be even larger, if the latter method in fact turns out to be more capital intensive per unit of product than is the labor saving alternative). While dangers of such inconsistencies can be exaggerated--

1. This calculation assumes the same product per employed man in non-agricultural activity as in 1953/54, and a somewhat higher productivity in agriculture. The over-all increase in output per man is of course due to the higher output per man figures in non-agriculture, and the relative shift in the labor force away from agriculture.

at least in an economy like India's¹--they should be borne in mind in discussing alternative possibilities for using India's additional labor and other resources.

Before looking into the needs and possibilities of sectoral expansion in output and employment, it may be of interest to examine generally again the investment implications of a growth in output to Rs. 12,665 crores in 1960/61. If use is made of the 3:1 capital-output ratio of the Planning Commission's First Five Year program, the Rs. 445 crores of additional income each year would require new investment of Rs. 1335 crores, or 8000 crores for the next six years. 1955/56, the present year, is included in the First Five-Year Plan period. If it is assumed that about 750 crores of new investment (private, as well as public) materialize during this year, a Second Five Year Plan which hopes to make an appreciable dent in current unemployment levels would appear to require a total investment of Rs. 7250 crores, more than twice the level estimated for the first program. On the average, this would mean net investment of about 13 per cent of domestic product during the five years after 1955/56. (Some of this investment might of course be financed from abroad, thus reducing the investment burden on domestic product over the Second Five Year Plan years).

It is difficult, however, to state definitively that these employment-output goals could in fact be accomplished with a net investment program of Rs. 8000 crores over the six years. The Planning Commission's capital-

1. See below, pages 29-31.

output ratio of 3:1 was not based upon experience in India.¹ While it was applied throughout a 25 year period in the Commission's model for Indian growth, i.e., a period over which the pattern of Indian output was expected to change significantly from its pre-Plan agricultural concentration, the argument for the low figure stressed the rural and agricultural possibilities contributing to low ratios. With the rather dramatic shifts out of agriculture suggested for 1960/61 (Table III)--and the importance of housing construction in the program--one might appropriately question whether the 3:1 capital-output ratio is not too optimistic. Certainly the Rs. 3600 of capital stock per employed worker in non-agricultural activities (the figure implicit in this assumption) would seem to be low even for relatively light industrial activity. On the other hand, Mr. Deshmukh has suggested a 2 1/2:1 ratio for new investment in non-agricultural activity (and even here, apparently in other pursuits than those characterized as "small enterprises"). However, the Finance Minister's over-all investment targets also include a sizeable allocation for agriculture. For the economy as a whole, he implies a capital-output ratio of 4.4:1.² On this basis, the

1. On the other hand, such a ratio is reasonably consistent with a) the facts that per capita product in real terms had not changed between 1931 and 1951 (see V.K.R.V. Rao in Capital, Supplement, Dec., 1954, p. 15), and that population has been increasing by about 1.4 per cent per year in that period, and b) the belief that savings and investment ratios have been about 5 per cent of domestic product.

2. From Mr. C. D. Deshmukh's statement in the Indian Parliament, Dec. 20, 1954, as reproduced in Indian Trade and Industry, Feb. 4, 1955, pp. 42-43. It may also be noted that the 4.4:1 figure, rather than his 2.5:1, or the older 3:1, has been used by other planning authorities. Thus, the Finance Minister of West Bengal, in his budget speech of February, assumed that Rs. 700 crores would need to be invested in that state to generate an income flow of Rs. 160 crores. Actually (and for reasons not clear in the reports available here), Dr. B. C. Roy doubles the investment estimate thus derived. It is not known whether the Rs. 1400 crores figure is due to the "big-industry" nature of West Bengal, or (as is more probable) to the fact that provision must be made in Bengal for large immigration from other provinces over the period of the Second Plan. In any event, a Rs. 1400 crores investment seems to correspond to an increased flow of income of Rs. 160 crores.

investment of Rs. 7250 crores suggested above would be increased to Rs. 10,600 crores for the Second Five-Year Plan period, 1956/57-1960/61. (On assumptions comparable to those of page 10 above, this investment would average almost 18.5 per cent of domestic product).

Lower capital-output ratios may well be pertinent for the Indian economy over the next five or more years. They are certainly being used in the provisional programs suggested by various Indian organizations.¹ The point here is merely that past experience provides no strong case for lower figures. Their use should probably be argued on the basis of a specific pattern of investment needs in which relatively low requirements for inputs of capital can be demonstrated.

It should be noted that the Rs. 7250 crores stand in some contrast to the range of Rs. 5000-6000 crores suggested by the Finance Minister.² There is at least the possibility that the present figure, based as it is upon the 3:1 ratio, is too conservative. As has been indicated, the shift out of agriculture and the rural areas means not only more industrial job opportunities, but also some expansion in housing and overhead facilities (education, transportation, in public health, etc.) in relatively concentrated population areas. Here, capital-output ratios might be even higher. It would therefore seem realistic for the Government of India to plan an investment program of at least Rs. 7250 crores for the 1956-61 period.

1. See below, page 35 and Appendix.

2. Given the higher capital-output ratios in his calculation, his lower estimates are attributable to differences in employment targets. As was suggested above, (footnote, page 4) the figures used here appear to be consistent with employment objectives for the next decade.

B. Output Targets for 1960/61

The preceding estimates of income (and investment) were based upon an employment objective. Despite the fact that output per worker in India is today higher in non-agricultural activities (taken together) than in agriculture, it still is low, relative to productivity levels in countries with more developed economies. The assumptions made might thus be considered incompatible with the objective of a program of economic growth. In any event, an income target of Rs. 12,665 crores for 1960/61 certainly constitutes a conservative goal. Furthermore, only general categories of employment opportunities were considered--agriculture vs. non-agriculture, urban vs. rural. Neither employment possibilities nor the achievement of a necessary and desirable bill of final products can be assessed without a direct approach both to over-all expansion and to relative emphasis in different sectors. The employment goals must clearly fit into a total development program.

The reconciliation of requirements for labor, for goods and services, and for investment is obviously a major task now before the Indian Planning Commission as it finalizes a draft of the next five-year plan. As of now, there are only general official indications of the pattern and magnitude of the Second Plan, with occasional mention of a specific goal in individual sectors. Recent statements, both by the Prime Minister and the Finance Minister, suggest that the final draft will plan for an increase in output of about 5 per cent annually, and for new employment for 10 to 12 million additional persons. These are consistent with estimates published in April by Professor Mahalanobis of the Indian Statistical Institute.¹ In

1. Although the Indian Statistical Institute is primarily engaged in governmental research, its estimates are not official. (Only summary figures of the Mahalanobis plan are available here as of mid-May.)

addition, there are estimates prepared by other private organizations-- notably by representatives of Indian business groups--which will inevitably influence the final form of the next plan. Thus, the Economic Intelligence Unit of the Indian Institute of Public Opinion (IIPO) has outlined a program, as has also the Federation of Indian Chambers of Commerce (FICC). Insofar as the latter two are based on the views of members of the private business community, they probably reflect analysis from roughly the same output objectives for 1960/61.¹ (See Appendix)

There is available here only occasional information on the detailed targets of output over the second five-year plan period. On the resource side, there are some indications of the extent to which it is anticipated that public savings can be expanded (whether through surpluses on current account, borrowings and foreign grants, and over-all budget deficits). While there are some rough approximations of the structural interdependence of the Indian economy in recent years, there is little on the input requirements for expansion of capacity in those sectors where this may be necessary. On this last point there is for India the important question of whether certain forms of capacity expansion (some blacksmiths as against a modern machine shop) may permit a more efficient flow of production, over a decade say, given the abundant labor and limited capital that will be available to the country in that period. For India too, the very fact that current output leaves significant labor and capacity unutilized (and the fact that this unemployment has presumably been increasing over time) suggests

1. See Quarterly Economic Report, IIPO, Vol. I, No. 3, Oct., 1954, pp. 17-22; Vol. I, No. 4, Jan., 1955, pp. 13-30. The FICC estimates are from a preliminary manuscript of Dec., 1954. This has already been modified, perhaps extensively, but the new version has not yet been received here.

the need to examine the possibilities for altering the input-output coefficients already estimated for the economy.¹ Under present conditions, it would thus appear that systematic use of input-output analysis or of linear programming to obtain an approximation to the investment program may be either impossible or questionable. Pending further information on the work now being done in India, it may nonetheless be worthwhile to examine more carefully the pertinent data and relationships which are available for such light as they can throw upon the scope and pattern of the next Plan.

1. The Output Target for 1960/61

Official statements, and most of the unofficial plans, anticipate an annual increase of domestic product of at least 5 per cent each year from 1955/56 through 1960/61. Specific rates are shown in Table IV, along with comparative figures.

Table IV. Annual Rates of Growth of Net Domestic Product

Pre-Plan	First Plan	Second Plan
1930/31 - 1950/51: 1.4%	Actual (4 yrs) 3%	As given in First Plan: 2.8%
1948/49 - 1950/51: 1.1%	Plan 2%	As in Table III* above: 3.9%
		Official statements: 5.0% ("about")
		Mahalanobis: 5.0%
		FICC: 6.2%
		IPO:** 9.1%

* For 6 years, beginning in 1955/56.

** If account is taken of the higher starting estimates, this figure is reduced to about 6.5%. (See Appendix)

1. For example, through significant shifts in techniques involving very little capital (rice production, road construction) and/or through altering the relative importance of different commodities in the final bill of goods (khadi vs. millmade cloth, bicycles vs. cars).

There is a clear contrast with pre-Plan performance of the Indian economy. There is also a striking contrast with the model of growth anticipated when the First Five Year Plan was formulated.

If actual performance over the past Plan years is combined with the 5 per cent figure being suggested for the Second Plan, the growth model implied would indicate a doubling of per capita net product by 1967/68 (rates of population growth remaining unchanged). Such a performance would compare most favorably with rates of growth in the U.K., the U.S., and Japan in the first stages of their development progress. It may be comparable with achievement in the U.S.S.R. in the years from 1928, although the Second War apparently delayed a doubling of per capita income until about 1950. Movement along such a curve would imply for the Third Five Year Plan years an annual increase in net domestic product in excess of 6 per cent--the levels currently prevailing in the Soviet Union.

The desirability of such rates of growth for India in the next five years cannot be questioned, and a governmental decision to attempt them would be heartening. Two groups of considerations are relevant here. First is the question of the extent to which the pre-conditions for such rapid rates of growth already exist in India, or are about to appear. Second are the possibilities for growth inherent in the present state of the Indian economy, with its relatively large reserves of underutilized labor and, perhaps to a smaller extent, of physical plant.

India's domestic product has expanded more rapidly than would have been suggested by the rate of new investment over the past few years.¹

1. There is, however, some question about the actual level of new investment, particularly in the private sector. On this latter, see B.M. Birla's speech to the 28th Annual Meeting of the FICC (March 5, 1955) and

The Planning Commission itself has attributed a major share of the income expansion to favorable weather conditions. Voluntary savings do not appear to have progressed along the lines postulated by the Government of India in the formulation of its (less ambitious) development outlook in 1951. Public investment in recent years has been financed to a greater than anticipated extent (over 50 per cent) by government deficits. Greater reliance is expected to be placed on this method of financing in 1955/56, and perhaps over the Second Plan period. The channeling of resources into investment by this process is desirable—at least so long as it does not compete with private demands for the same resources for consumption or for private investment. There is no assurance, however, that competing demands may not arise; these might necessitate the introduction of new procedures to make possible the required volume and pattern of investment. Finally, so long as the Indian investment program remains a combination of private and public investment efforts, the climate of opinion in the private sector can be expected to influence the future course of private investment. The "degree of mix" problem does not yet seem to have been resolved to the mutual satisfaction of both sectors.¹

These observations suggest both the importance of fortuitous events in the level of income already attained and the ability of the Center to convert a large share of these gains into real capital formation. The

(continued from p. 16)

similar statements of the FICC, as well as of other business organizations. On the view above, see Planning Commission, Progress Report for 1953-54 and Malenbaum, "India's Economic Progress Under the Plan", The Economic Weekly, Sept. 11, 1954.

1. See discussions following the Prime Minister's Avadi address to the All-India Congress Committee, the reaction to the Tax Enquiry Commission Report, the Fourth Amendment, etc.

public investment program has increased impressively to a rate almost twice the pre-Plan level by early 1955. But it seems clear that governmental organization and administration for development have not yet been stepped up to the point where full advantage has been taken of the resources available for investment, or even to where investment has reached the levels planned. Moreover, the problems of a more active private sector, both with respect to consumption and investment, have not yet been fully met. On both the resources and the use side, pre-conditions for accelerated growth have still to be institutionalized.

Despite the progress already achieved, there has not been a reduction in the level of unemployment. Measurement is not possible, but a growth in unemployment is generally believed to have taken place. In addition, underutilization of industrial capacity apparently persists. A recent study,¹ using data from 1946 through 1953, reports that throughout this eight-year period, and particularly in recent years, existing industrial capacity has been idle:

Detailed figures of capacity are available for all four years between 1950 and 1953, for 78 industries. Out of this, 28 industries were throughout working at less than 60 percent of capacity; 12 industries were working at less than 60 percent of capacity for a period of three years. Thus, in all 40 industries out of a total of 78 were working at less than 60 percent of capacity for a period of three years or more. In other words, about 57 percent of the industries worked for a period of three years or more at less than 60 percent of capacity.

The expanding governmental development program seems to have had relatively little effect upon these, and perhaps other, "reserves" of resources that

1. C.N. Vakil, "Indian Industry's Installed Capacity and Present Production Levels," Capital, Dec. 16, 1954, p. 19. The data given do not list the specific industries nor their size, but information on these must be obtainable. (I have written Prof. Vakil for details)

might somehow be mobilized for investment. Conceivably, a development effort might be organized which could, on the basis of fuller use of such resources, bring about a dramatic increase in rural product, both agricultural and other, and to a lesser extent in urban industrial output. This would without doubt require an intensification of government participation in organizing change in rural areas, as well as larger direct participation in making possible the use of specific industrial installations. If successful, the results achieved should be considered as a discontinuous upward movement of the level of output, rather than as one stage in a longer-period pattern of continuous growth along some smooth curve. After a five (or ten) year period of revolutionary change in the organization of output in sectors where underutilization has tended to become chronic, annual rates of growth might then proceed at a more normal and initially slower pace. It is difficult to venture on how much of a contribution might be made to output. On the surface, however, an average increase of product by 5 per cent over each of the next five years would seem more attainable if such an intensive (one-shot) effort were added to existing plans for orderly expansion.

On this basis, it is assumed that a net domestic product of about Rs. 13,250 crores (1948/49 prices) will be achieved by 1960/61, an expansion of 32.5 per cent in six years. This figure is in lieu of the Rs. 12,665 crores suggested in Table III above. If, as seems probable, 1954/55 product is somewhat higher than the Rs. 10,000 crores assumed in that Table, the 1960/61 target would be correspondingly raised. Per capita income would reach Rs. 325, with an increase of some 3.5 per cent in each of the six

years. Over the period of the second plan, domestic product would thus expand by about Rs. 3000 crores, an average increase of almost Rs. 600 crores per year.

2. The Sectoral Pattern of Output

With the large upward movement, there would also be important shifts in the sectoral composition of product. In general, agriculture and allied activities would increase less than other sectors; industry, mining, etc., would increase much more. The tertiary sectors might also contribute a different share of the total output. The new sectoral pattern of output in 1960/61 (and the relative amount of income generated in the different sectors from now on) would need to be markedly different from those of the past. Tables V and VI show broad categories of income, and of changes in income, from 1931 and for some First Plan years.

It is clear that a shift to new patterns for the expansion in income must counter long-time trends in the patterns of growth. Over some twenty years, both agriculture and industry have tended to become less important in the Indian economy, while the relative importance of services, transport and trade has grown. In this last respect, Indian development over these years seems to parallel economic growth patterns in the West. The sole difference is that, instead of the tertiary sectors expanding with per capita income, in India they grew while income scarcely matched the rate of population growth.¹

1. V.K.R.V. Rao adjusted his 1930/31 figures for British India, thus making the 20-year comparison possible. He characterizes India as a "static economy in progress." This experience warrants careful study. The population movement to the cities was encouraged not only by a declining agriculture (and cottage industry), but also because these sectors were increasingly less efficient. Modern industry's rural markets were limited. Urban labor found limited employment opportunities in the factories. Service sectors expanded because of the facility of entry. The larger share they contributed to the national product probably meant that, on the average, people could acquire a less desired basket of goods for a rupee of the same value in 1951 as in 1931.

Table V. Sectoral Composition of Income Growth
Rs. crores - Past Periods

Increase in:	1931/32 - 1950/51		1948/49 - 1950/51		1950/51 - 1953/54	
Agriculture, etc.	1090	47%	90	45%	410	48%
Mining, Industry	260	11%	0	0%	230	27%
Trade	580	25%	60	30%	110	13%
Services	380	17%	50	25%	100	12%
Total Increase	2310	100%	200	100%	850	100%
Average annual increase	116		100		283	
<p>Source: 1931/32, V.K.R.V. Rao, <u>Changes in India's National Income, Capital, Dec. 16, 1954.</u> 1948/49-1950/51, National Income Committee 1953/54, Malenbaum, <u>op. cit.</u></p>						

Table VI. Income by Sectors (Percentages)

	1930/31	1948/49	1950/51	1951/52	1953/54
Agriculture, etc.	52.7	49.0	51.3	50.0	48.7
Industry, etc.	17.7	17.0	16.0	17.2	17.6
Other	29.6	34.0	32.7	32.8	33.7
Total	100.0	100.0	100.0	100.0	100.0
<p>Sources: 1930/31 - V.K.R.V. Rao, <u>op. cit.</u> 1948/49 - 1951/52 -- National Income Committee 1953/54 - Malenbaum, <u>op. cit.</u></p>					

The evidence for 1951 through 1953 does show a relative growth in the contribution of industry to national income. On a percentage basis this sector had almost regained the importance it had in 1930/31, although it is reasonably certain that, within the total, large scale industry had increased relative to small industries and handicrafts. Two factors are obviously associated with this changed pattern. First is the circumstance of higher per capita incomes (up about 4-5 per cent from 1950/51)--stimulated in large part by the favorable developments in agriculture in these years. Second of course is the fact that India had embarked upon a conscious effort to expand national income. This last did contribute also to the improvements in the agricultural sector, although major credit is apparently due to favorable monsoons. While opinions differ on the "shortfall" of investments in the private industrial sector in the early plan years, it is in no case argued that such investment exceeded the levels of the pre-plan period. It seems clear that the increased percentage in Table V reflects more the greater utilization of existing industrial capacity than it does a relative growth in new facilities for manufacturing.

Improvement in the agricultural sector bears more or less directly upon over 80 per cent of India's population. That this should provide a stimulus to the industrial sector, both rural and urban, is not surprising (although it would be good to analyze this in terms of demand elasticities in rural areas). What is surprising is the absence in these summary data of any obvious effects of the industrialization process in India since 1930/31. The information readily available is not adequate for careful study of the shorter-period developments since 1930/31. Expansion and diversification in large scale industry were taking place; people were

moving from the rural areas. Productivity in large scale industry, as in non-agricultural activities generally, appears to be higher than in agriculture. In themselves, these, one might expect, would have provided the stimulus for over-all income growth relative to population, and for a greater importance of net industrial output in total product. Apparently, they did not.

Increases in industrial income in the last few years again point up the underutilization of capacity in Indian industry. The persistence of underemployed resources does suggest some answers to what the data of Tables V and VI reveal. It does not explain the growth in industrial capacity over the past decades or the fact that this expansion was not fully used to meet the needs of a poor country.

Presumably, the next Plan will show significantly different sectoral patterns from those in the preceding tables.¹ In the past, expansion of industrial capacity was not accompanied by a growth in the relative importance of this non-agricultural sector. Trade and services have grown disproportionately. In the future, the relative importance of tertiary activities, as well as of agriculture, must decline as the broad category of mining, industry, etc., expands. Given the historical evidence, it is reasonable to assume that the new patterns will not just happen. The need for direct action to this end must complement the direct action needed if total product is to expand by about 5 per cent each year.²

1. This is clearly suggested in the plans outlined briefly in the Appendix.

2. See page 19. As was suggested above, there is room for careful analysis of the factors which brought about the pattern of development in India over the past decades. Such study might provide helpful guides to the kinds of actions needed on the part of entrepreneurs and consumers, of the government and private sectors, if the changed patterns are most readily to be brought about.

A possible pattern for 1960/61 is shown in Table VII, along with the changes from 1954/55.¹ The specific patterns assumed are consistent with the general considerations above. Wherever possible, use was made of the proposals in plans which have become available in India over the past months (See Appendix, and discussion of some specific sectors below). Table VIII corresponds with the past materials of Tables V and VI, and with that of other plans as shown in the Appendix.

The over-all domestic product target in Table VII is of course the estimate discussed in preceding pages. It assumes essentially the 5 per cent annual rate of increase suggested by Nehru and Deshmukh. It is also considered a fuller-employment target. In other words, the difference between Rs. 13,250 crores and the earlier estimate of the minimum increase compatible with certain employment objectives² is taken to be a gain through higher productivity per worker. The sectoral breakdown of Table VII was constructed in part on the assumption that employment opportunities would somehow be found for 21 million persons over the six year period. It has been argued above that a larger amount of direct participation by government was probably a pre-condition for assuming a 5 per cent annual increase in domestic product. In particular, "small enterprises" and to some extent "construction", served as residual categories in the construction of Table VII. They provide the residual income (for a total increase of Rs. 3250 crores) and the residual employment (for a total of 21 million new job opportunities).

1. For that year, the total product was taken at Rs. 10,000 crores, with sectoral breakdowns as given in the CENIS study for 1953/54. This corresponds with the treatment in Table III above. (The official estimates, by sectors, now available for 1953/54 have not yet been received here).

2. See pp. 7 - 9 above.

TABLE VII

Domestic Product by Sectors, 1954/55-1960/61
Rs., crores, 1948/49 prices

	<u>1954/55</u>	<u>Increase</u> %	<u>6 Years</u> <u>Amount</u>	<u>1960/61</u>
<u>Agriculture</u>	<u>4870</u>	<u>(16.5)</u>	<u>800</u>	<u>5670</u>
<u>Industry, etc.</u>	<u>1760</u>	<u>(90)</u>	<u>1550</u>	<u>3310</u>
Mining	80	(75)	60	110
Factory Estab.	710	(75)	530	1240
Small Enterp.	770			(1480)
Construction	200	(100)	960	(450)
<u>Trade and Commerce</u>	<u>1830</u>	<u>(23.5)</u>	<u>430</u>	<u>2260</u>
Rrs. and Commun.	260	(65)	170	430
Banks and Ins.	80			
Commerce, Other Transp.	1490	(16.5)	260	1830
<u>Services</u>	<u>1540</u>	<u>(30)</u>	<u>470</u>	<u>2010</u>
Prof.	520	(15)	80	600
Govt.	460	(50)	230	690
Domestic	140	(neg.)	10	150
House Prop.	420	(35)	150	570
Total	10000	(32.5)	3250	13250

Table VIII. Domestic Product, 1960/61; Sectoral Composition
of Increase 1956/57 - 1960/61
(Rs. crores, 1948/49 prices)

	A. Domestic Product		B. Sectoral Composition of Increase - Second Five Year Plan	
	Rs. crores	%	Rs. crores	%
Agriculture	5670	42.8	740	25
Mining, Industry (and Construction)	3310	25.0	1430	48
Trade	2260	17.1	400	13
Services	2010	15.1	430	14
Total	13,250	100.0	3000 (Av.600)	100.0

The figures of the tables inevitably suggest a precision which they cannot have, even as projections. The argument is based upon the limited information available here. Moreover, given the incomplete nature of these, no attempt has been made to go below the categories listed in Table VII. The composition of agricultural output, of industry, etc., and the interrelations among their parts may condition

the output of the sectors as a whole. At best, the suggestions here are preliminary orders of magnitude, which appear to be consistent with general demand (including investment) possibilities, and with employment requirements.

Agriculture: Income growth in agriculture was taken at twice the rate of population increase. If the entire increase were in food alone, this would provide for about a 10 per cent expansion in per capita food consumption (as against a 23 per cent increase in per capita product). Actually 87 per cent of India's agricultural output consists of non-food items; this ratio will probably decline with increased industrial demand for the products of agriculture. This would mean a smaller percentage increase in per capita food consumption--perhaps 7 per cent or 8 per cent. Admittedly, this is a low increase, given the nutritional case that can be made for an expanded and improved dietary. On the other hand, there is some basis for associating an increase of 7 to 10 per cent in food consumption with a 20-25 per cent increase in domestic product.¹

Indian plans seem to envisage a larger expansion in agricultural product by 1960/61--with increases ranging from 20 to 25 per cent above current levels (See Appendix). Presumably, therefore, it can be expected that the lower increases assumed here are capable of achievement. Insofar as expansion in capacity for agricultural output does vary with the

1. On the basis of the figures in this paper, domestic product would increase by Rs. 60 per capita over the six year period, consumption expenditure by about Rs. 45. If 40 per cent of this increase were to go to food, food consumption would increase by 9 per cent per capita. (Statistical demand relationships in India are currently being studied by the Indian Statistical Institute, on the basis of the sample survey material.)

investment of goods and services in relatively short supply in India, there would appear to be a case for a heavier concentration in the non-agricultural area.¹

Trade and Services: The relative growth of these sectors in past years has already been noted. As is seen in Table VIII, these two sectors show relatively small contributions to the expansion in income over the six year period. In 1960/61, their share of domestic product is below the 1950/51 level. However, important components in them (and mostly those which did not participate in the past general growth of the trade and service sectors) are shown with relatively large expansions. Notable here is transport and communications (65 per cent increase), home property (35 per cent) and government services (50 per cent). The first of these was assumed to increase at twice the rate of domestic product as a whole. This is consistent with the expansion suggested by the FICC and the IIP0 (but smaller absolutely, given their larger expectations for increases in total output). House property income is expanded more or less with total product; it reflects also the increase in urbanization.

With respect to government services, earlier discussion has made clear the emphasis placed upon a greater role for the public sector. It is assumed that community activities will have to be stepped up, both with respect to coverage and depth. If the anticipated levels of output from construction and small scale enterprises are to be achieved, additional public employees in Indian villages would seem to be essential. The specific increase selected is an arbitrary one, and is meant to give

1. See below, pp. 39-40.

dramatic content to the importance attached to the government's role in a major development push over the years until 1960/61, (The increase has been calculated from a figure of additional employment.¹) Finally, other components of the trade and services sectors have been increased little, usually by half the rate of growth of total domestic product.

Industry: For the organized components of this sector, the 75 per cent expansion in income over six years may be compared with a 67 per cent increase for five years in the Mahalanobis proposal; it is significantly smaller than the absolute (and relative) expansion for these activities contemplated by the FICC and the IIP0. Given the need for larger outputs of investment goods and for increases in per capita consumption of consumer goods produced by factory establishments, a large expansion is obviously in order. In the published plans enough detail is given on possibilities of expansion and rise of output to justify increases of this order of magnitude.

Estimated increases in the other sectors--small enterprise and construction--are residuals, although a rough approximation to the construction component is attempted below. It is really assumed that, through a large organizational effort, output from small enterprises can be extended significantly. Moreover, such expansion offers the only possibilities, in India's present economic situation, for increasing total product to the desired levels. Expansion here will be relatively labor-intensive: it is essential both to provide employment opportunities and to begin to create a broader and deeper market in India for the products of industry. Growth in small enterprises will be in the urban areas, largely to complement large industries through the production of components, perhaps through sub-contracts. Growth will be

1. See below, page 35.

even more marked in rural areas, especially where non-monetary transactions are still important. Here they will produce consumer and simple producer goods for local consumption. The argument is that where there are unfilled needs--for shoes, clothing, housing, furniture, pots and pans, etc., or for wagons and carts, simple agricultural tools, village roads, more schools, and the like; and where there are local under-utilized resources--men, work space, local raw materials--there, incentives, organization and an essential increment of capital goods and raw materials can expand output that will be absorbed. Initially, at any rate, government must supply the necessary leadership and such hard goods as are required.

It is true that some such rural activities are now carried on in the community development programs, and others are contemplated under expanded small industry programs. The former effort, while impressive, still needs to be stepped up markedly. Its shift in emphasis to agriculture needs now to be balanced by equivalent priority to other aspects of rural life--and by the rapid increase of personnel assigned to these tasks. Unlike much of the new small-scale industry effort, there is here less intention to develop urban or foreign markets for the new production in rural areas. Essentially, all of it is for local use. Indeed, it is assumed here that the large-scale organized sector will meet any demand which it can fill. In principle, there should be no attempt to limit activity of the large, lower-cost sector, either with respect to its present markets or those which it can develop. The goal here is to reach needs not now being met by the organized sector, needs that will not be met, given the limited real incomes and the low growth potential in many rural areas under present conditions. As output from these small establishments expands, it can be expected that demands

which it begins to meet will gradually shift to the product of the organized sector. Again, an attempt should not be made arbitrarily to interfere with the "more industrialized" forms of output for which there is effective demand now and as over-all development progresses. Ideally, the expanded output from the small sector should be considered transitional to a period when the organized sector is better able to fill India's need for industrial product. In the Third Plan, for example, there might thus be scope for a much greater relative increase in output and employment opportunities in modern industries (and a tertiary sector which will need to grow).

Table VII ventures an admittedly arbitrary breakdown between "small enterprises" and "construction". Apparently this latter category--reflecting at least some components of new factories, public buildings, service establishments, railway track extensions, dams, houses, etc.--is contained under a number of heads in Indian national accounts. Here, the bulk of them has been assigned to the broad industry sector: the items to cover labor and entrepreneurial returns in construction are assumed to have been included under the National Income Committee's "small enterprises" (and are here separated out); the lumber, cement, steel, glass, machinery, etc. are assumed to be covered under income from factory establishments. Moreover, there are no official estimates of investment (neither net nor gross). Estimated output of the construction sector--whether for maintenance, for new factories and houses, etc.--is not available from official sources.¹

1. Some support for the present treatment is provided in the Mahalanobis Plan document (or insofar as it is available here, i.e., in the April 22, 1955 issue of the Eastern Economist). Here, for the first time to my knowledge, "small enterprises" appear as "household enterprises and construction."
(cont. next page)

Unofficial estimates of capital formation in pre-Plan years (as well as "illustrative" data presented by the Planning Commission) are available in some detail.¹ In pre-Plan years, these sources suggest that the construction component of net capital formation may have aggregated some Rs. 200 crores.

(footnote from p. 31 cont.)

A single figure is available for both, and at a level which suggests that it is in fact the old "small enterprise" category.

The treatment of "construction" in Indian accounts is not readily followed. Thus, the 1951 Census reported about 1.6 million workers under "construction and utilities." These constitute 5 per cent of all the non-agricultural (and self-supporting) workers. In the National Income Committee "working force" table, which is broken down to correspond with the "industrial origin" table used in National Income Committee income estimates, these workers are allocated among different sectors. Thus, about 757,000 of these construction workers have been returned by the Census under "construction and maintenance--buildings." The National Income Committee, after estimating that some 10 per cent of these construction workers may be indirectly in the employ of government (via contract arrangements, etc.), allocates this percentage to "public administration" and returns the rest in the industry sector. Presumably, then, private housing and factory construction are included under the industry category(?). Almost 1,149,000 construction workers are returned under the Census category of "construction and maintenance--road, bridges and other transport works." The National Income Committee allocates 1/3 of these to railways, 1/3 to public administration and 1/3 to industry. There is no specific reference to "construction and maintenance--irrigation and other agricultural works" (1,14,000 workers). Presumably, they have been allocated to agriculture, which would be understandable if the bulk of their work was maintenance, as distinct from net additions to the irrigation system, etc. Similarly for other construction worker categories which are specifically reported by the Census.

A tentative inference is that the product of the construction sector, so important as a component of capital formation, is allocated among the sectors to the expanded capacity of which the construction sector contributes. For new factory and housing construction, however, the sector is apparently "industry." This tentative inference, drawn from the working force allocations of the National Income Committee, is not at all confirmed in the National Income Committee's derivation of net product in the industry sector, for example. (It is clear that more guidance is needed on the appropriate allocations.)

1. See Mukherjee and Ghosh, Bulletin of the International Statistical Institute, Vol. 33, Part III, pp. 49-68; also First Five Year Plan, pp. 107-108. See also the Indian Input-Output table prepared by the Indian Institute of Public Opinion (Quarterly Economic Report, Vol. I, No. 3, pp. 26-27).

(This figure would be increased by about Rs. 160 crores if account is taken of rural construction which was non-monetized, and presumably undertaken by farmers, small industry owners, etc., in their spare time, and without any significant outlay for materials.) The first figure itself is about 45 per cent of total net monetized investment in those years. (All construction would be more than 60 per cent of the larger investment figures, i.e. including the non-monetized component.) There is little doubt that this construction figure increased during the First Plan period. While data are not available on this point, it seems clear that private investment (other than that in organized industry) went up in the early Plan years. Construction is a large part of this non-organized investment. The Plan itself called for increases in public construction activity, in agriculture, industrial enterprises, railways, etc.; it is not known here how much did in fact occur, nor the direction of changes from the pre-Plan level of activity. In its input-output table for 1952/53, the Indian Institute of Public Opinion indicates a domestic product from construction of Rs. 251 crores; it suggests in addition some Rs. 250 crores for "rural non-money investment." These estimates are certainly in the right direction.

In Table VII, the construction estimate of Rs. 200 crores for 1954/55 is to be taken as exclusive of hard goods used in the building of capital structures. By 1960/61, this item is assumed to increase to Rs. 450 crores, with a total contribution to net product over the six years of Rs. 2000-2400 crores. This estimate encompasses not only housing (annual construction of about 800,000 new urban dwelling units for an urban population increasing to levels suggested in Table IIC, and some 700,000 new units in rural areas),

but also factory buildings, hospitals, other public construction, etc.¹

C. Employment, 1955/56-1960/61

Two important aspects of a program along the above lines require some consideration. Will the volume of investment be available, and in the form required (foreign exchange, for example), to permit creation of the additional capacity needed for the final product of Table VII? First, however, what are the possible employment implications of such a program?

In Tables IX and X are presented what are considered to be some plausible possibilities on the employment side. The starting point for the calculations, the 1954/55 estimates shown in Table X, are no more than careful guesses. Totals are consistent with the figures of Table IIB and the unemployment picture described in pages 4 and 5. Allocation of working force by sectors follows the general pattern given by the National Income Committee for 1950/51, with adjustments made in the light of the growth of product during the early Plan years and of occasional employment figures (for factory establishments, for example). A rough indication that these guesses were not wholly out of line is given by the correspondence between average net output per man employed in 1954/55 (column 2 of Table IX) and the official computation for 1950/51.²

1. The Rs. 2000-2400 crore range, augmented by the cement, steel, lumber, etc. used in construction (and output of which is included in the factory establishment sector) probably imply total new construction of Rs. 3200-4000 crores over the six year period.

2. National Income Committee Final Report, p. 108. Adjustment must be made for (1) the fact that present estimates exclude the unemployed, while the National Income Committee's refer to the entire working force, and (2) the 1948/49 prices of Table IX, as against the current levels for National Income Committee. When adjusted, the 1954/55 figures reflect the upward movement due to economic improvement since 1950/51.

Table IX

Incremental Labor Productivity, 1954/55-1960/61
(All values in 1948/49 prices)

	Add'l. Labor (millions) (1)	Net Output/Man Employed (Rs.)		Add'l. Output, 1960/61 (Rs. crores) (4)
		Average 1954/55 (2)	Incremental 6 Years (3)	
<u>Agriculture</u>	<u>5.6</u>	<u>495</u>	<u>1425</u>	<u>800</u>
<u>Industry, etc.</u>	<u>10.0</u>	<u>1200</u>	<u>1550</u>	<u>1550</u>
Mining	.5	1140	1200	60
Fact. Est.	1.4	2625	3750	530
Small Ent.	5.6	835	1270	710
Constr.	2.5	1000	1000	250
<u>Trade and Commerce</u>	<u>2.5</u>	<u>1740</u>	<u>1740</u>	<u>430</u>
Rys. and Comm.	1.0	1730	1730	170
Banks and Ins.	1.5	1740	1740	260
Commerce, Other Transp. }				
<u>Services</u>	<u>2.9</u>	<u>800*</u>	<u>1100*</u>	<u>470</u>
Prof.	.7	870	1150	80
Gov't.	2.0	1100	1150	230
Domestic	.2	560	560	10
House Property	-	-	-	150
Total	21.0	735	1550	3250

*Excludes income from "house property," where employment negligible.

Table X

Additional Employment, by Sectors, 1960/61
(million persons)

	1954/55			Additional (6 Years)	1960/61		
	Employed	Working Force No.	(%) Empl.		Employed	Working Force No.	(%) Empl.
<u>Agric., etc.</u>	<u>98.4</u>	<u>109.1</u>	<u>(90)</u>	<u>5.6</u>	<u>104.0</u>	<u>108.0</u>	<u>(96)</u>
<u>Industry, etc.</u>	<u>14.6</u>	<u>16.3</u>	<u>(90)</u>	<u>10.0</u>	<u>24.6</u>	<u>25.5</u>	<u>(97)</u>
Mining	.7	.8	(88)	.5	1.2	1.3	(93)
Fact. Est.	2.7	3.0	(90)	1.4	4.1	4.2	(98)
Small Ent.	9.2	10.3	(89)	5.6	14.8	15.3	(97)
Constr.	2.0	2.2	(91)	2.5	4.5	4.7	(96)
<u>Trade, Commerce</u>	<u>10.5</u>	<u>11.8</u>	<u>(89)</u>	<u>2.5</u>	<u>13.0</u>	<u>13.5</u>	<u>(96)</u>
Rys. and Comm.	1.5	1.6	(94)	1.0	2.5	2.6	(96)
Banks, Ins.							
Commerce and Other Trans.	9.0	10.2	(88)	1.5	10.5	10.9	(96)
<u>Services</u>	<u>12.7</u>	<u>14.0</u>	<u>(91)</u>	<u>2.9</u>	<u>15.6</u>	<u>16.2</u>	<u>(96)</u>
Prof.	6.0	6.8	(88)	.7	6.7	7.0	(96)
Gov't.	4.2	4.2	(100)	2.0	6.2	6.2	(100)
Domestic	2.5	3.0	(84)	.2	2.7	3.0	(90)
Total	136.2	151.2	(90)	21.0	157.2	163.2	(96.5)

Twenty-one million persons--12 million new members of the labor force and 9 million of the currently unemployed--are then allocated among the sectors of the economy, as shown in the first column of Table IX. Consistent with the preceding discussion of income expansion and of the historical development of the tertiary sectors, only about 25 per cent of the new labor force is assumed to find employment in the trade and service categories.¹ (Moreover, incremental productivity in these sectors does not show significant increases.) Also, almost half of the new workers are in mining, industry, etc., with 80 per cent of these in the unorganized sectors.

If the entire increment of product, Rs. 3250 crores, is taken to be associated with the newly employed, their incremental product works out to Rs. 1550 for the economy as a whole--somewhat more than double average productivity in 1954/55.² However convenient such an association, it is more true with respect to factory establishments, for example, than to small enterprises and agriculture. The development program would more nearly tend to broaden the first sector. The increase of almost 50 per cent in the output per man in modern industry could be assumed on the basis of the new and more modern factories that will be established. For the other two sectors, capital and organization would serve importantly in raising productivity of all the persons engaged, as well as of the newly employed.

1. This treatment differs greatly from that of the FICC and IIP0 formulations, where, as the Appendix shows, labor is allocated generously to the tertiary sectors. (Material available here on the ISI formulation does not include allocation of additional labor.)

2. A comparable computation for the first three plan years gives an incremental product of Rs. 2040 per worker. (See Appendix). Here, however, there was the major gain from the favorable weather. Moreover, estimates of actual additional employment in these years are essentially assumptions.

For agriculture, for example, an incremental product of about 3 times the average simply reflects the progress to be made on all the farms in the country. Similarly, to some extent, for small scale industries.

General considerations such as these, technological information on the labor components of expanded product--and reasonable guesses--permitted some approximation to a sectoral figure either for new employment or for incremental productivity. With the breakdowns for incremental output already available from Table VII, columns (1) and (3) could be completed.

The final employment estimates for 1960/61 of course reflect the reduction in unemployed by 9 million persons. As might have been anticipated, there is actually a small reduction in the agricultural working force (despite an increase in employment, and the large natural growth). While the rural-urban components of Table X are not shown, this movement from agriculture is to a much smaller extent a movement from the rural areas. Opportunities there are created in small-scale industry, in the many phases of construction, in trade, and in government and other services. By 1960/61, the rural-urban employment breakdown would approximate the ratios of Table IIC.

D. Investment, 1955/56 - 1960/61

At the usual ratio of 3:1, the expansion of product to the level of Rs. 13,250 crores would involve a net investment of Rs. 9750 crores over the six year period. The draft plans currently being discussed in India generally use much lower capital-output ratios: 0.84 for the IIP0; 1.7 for the FICC (preliminary draft); and apparently 1.95 for the Mahalanobis program. However--again, from what may be the limited documentation available here--the case for such low ratios does not seem to be argued fully in the proposals.¹ In any event, a low ratio for the Second Plan with its heavier concentration on industry scarcely seems defensible on the grounds "that the return on industry is considerably higher than that on agriculture, and this return is available in a much shorter time."² Simultaneously, the Mahalanobis program provides for a five-year increase of income in "agricultural and allied pursuits" of Rs. 1060 crores, with an investment in "agriculture and irrigation" of Rs. 950 crores. This implies a sectoral ratio for agriculture of .9:1, for investment which includes the expansion in irrigation works.

There would appear to be little body of agreed thought and experience on the difficult problem of "how much investment for how much income." The more one looks, the more impressed one is with the case for higher rather than lower ratios. Increased steel capacity and output feature large in

1. See above, pages 10-12.

2. IIP0 Quarterly Economic Report, Vol. I, No. 3, p. 19. The IIP0 gives a 1.2:1 figure, but actually seems to have reversed the ratio in its computations.

the industrial expansion of all the programs. On the roughest basis, an additional million tons per year adds some Rs. 30 crores to product and requires about Rs. 150 in new investment. Even more, India's growing product over the next years must include a relatively large volume of output in the form of structures--the houses, factories, shops, dams, etc., mentioned earlier (in the discussion of the needed expansion in construction¹). The total of this output must be matched by investment. This line of reasoning leads to high investment requirements relative to the new income flows.

On the other hand, the type of program visualized here does attempt to exploit underutilized resources. Insofar as these exist in the modern industrial sector, this would serve to moderate the (high) requirements for new capital that would otherwise prevail. For the less organized sectors, and especially the non-monetized parts of these, such a program should serve both to increase product with relatively little monetized investment and perhaps also augment the application of non-monetized investment; i.e. more labor inputs can be obtained "free" for combination with cement provided for new construction, and more clay and lumber might be available for investment which would not otherwise have been used. These considerations work toward lowering the capital-output ratio. They also suggest that the ratio computed with only monetized investment may be significantly lower than one in which monetary and non-monetary investment is combined. However artificial from a technological point of view the former ratio is, it may be the relevant one for an economy which keeps account only of monetary investment.

1. See above, pages 31-34.

Table XI - Net Investment, 1954/55 - 1960/61
(monetized and non-monetized)
Rs. crores

	Total (1)	Monetary (2)	Non-Monetary (3)
Construction	3500	2000	1500
Agriculture	800	500	300
Mining	250	250	
Factory Est.	1600	1600	
Small Ent.	1400	700	700
Transportation	850	750	100
Other	300	300	
Total	8700	6100	2600

The figures of Table XI represent some first (and crude) efforts at approximating the investment requirements for the output program discussed earlier. The construction item is not co-terminous with "construction" as shown in Table VII, since it includes hard goods as well as expenditures on labor and management. Factories and houses are in this total, as are new roads, new dams and power stations, etc. And expenditures for these structures are excluded from the investment shown for agriculture, transportation, manufacturing, etc. (The sectoral figures are thus not comparable at all with those presented in the various draft plans.) For agriculture itself, the capital-output ratio assumed is 1:1; for mining, 4:1; for factory establishments--even after allowing for increased use of existing

capacity--3:1; for small enterprises, 2:1; and for transportation and communication, 5:1. Again, these figures must be considered as understatements, since they do not reflect the large investment in construction activities, which bears upon all of them.

For the economy as a whole, the capital-output ratio averages 2.7:1. For monetized investment only, the computation is 1.9:1. Over a six year period monetary savings of Rs. 6100 crores would need to be mobilized-- about Rs. 1000 crores annually. This is well within the range currently being considered by the Government of India. If the above approximations are at all within plausible ranges, such money investment can achieve the income and employment targets, provided it is combined with an intensive program to put underutilized resources to work. This latter phase of the program--involving an additional investment effort 40 per cent as great as that of the monetary program, and providing major employment and income possibilities--may be essential, not only to the targets for 1960/61, but to create conditions for subsequent growth in the Indian economy.

While each of the present draft plans pays some attention to the need for mobilizing underutilized resources, the key role of the unorganized sector, or the possibilities for non-monetized investment, etc., there appears (in the abbreviated versions available here) no over-all assessment of the magnitude of the task nor of the nature of the key responsibility of the public sector in its fulfillment.¹

1. In the course of the above discussion, there was no need to define precisely the specific activities which fell in the public or the private sector. Again roughly, almost 50 per cent of the total investment of Rs. 8700 crores would be in the public sector, as would 55 per cent of the monetized investment of Rs. 6100 crores. Private non-monetized investment in construction, agriculture, and small enterprises would be large.

Whatever the specific separation between the two sectors, the important matter is the leadership role of the public authorities. The more decisive this, the greater the prospects of success in the total effort, i.e. in both