A Case of Aborted Growth: India, 1860-1900

Some Suggestions for Research

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For the economist examining problems of economic development it is probably more revealing of the complexities of growth to examine a case of aborted growth than to do research in what appears from hindsight to be a smooth progression front "preconditions" to "maturity".

One of the most intriguing canes of such aborted growth seems to have occurred in the. economic history of India from 1860-1900.

During this period a major inflow of foreign investment occurred; there was also apparently much domestic investment: an infra-structure of railroads and irrigation works was constructed; and several new major industries developed with great rapidity. Yet in spite of these developments, it appears from very crude estimates that per capita income showed little if any rise, even though the rate of population growth by present measures was very low: and that. the. proportion of the population living in urban areas (as a measure of industrialization) increased only slightly, if at a//.

Little research has been done in this period of India's economic history (none from the point of view of the development economist). It is the purpose of this brief paper to present some of the facts of the changes that were occurring and then to indicate certain hypotheses that might explain this period of change without development, as a guide to future research.

The hypotheses presented concentrate on an economic explanation for the lack of growth, since it appears that the economic factors are sufficient, within the framework of the then government's policy, to explain the stagnation that occurred, without bringing in the social and political factors in the same period, apart from British rule It must be stressed that these are hypotheses — to be tested by research in the historical files of the English and Indian governments and business organizations.

FROM the fragments of data available on British investment in India during the period 1860-1900 there is clear evidence of major investment activity. Much of this foreign investment was for the construction of a railroad network, but it extended to private industry and to purchase of Government securities. Two sets of figures for British investment are presented below one for total investment and the other for largely railway investment, which equalled about 50 per cent of the total. Unfortunately there are no data for Indian investment.

Table 1 : British Investment in India, 1857-1911

Year	Total British Investment	British Investment Exclusive of Private, Unguaranteed Railway, and Indian Government Rupee Debt
	(in £ Millions)	
1857	—	14
1870/71	153.4	78
1884	260.0	150
1911	351.0	1

Sources : A K Cairncross, "Home and Foreign Investment, 1870 — 1913", p 185.
J H Jenks, "Migration of British Capital to 1870", pp 213, 219.

The railroad network grew as follows during this same period:

Table 2 : Growth of Railway Mileage in India, 1854-1913/14

Year	*Railroad Mileage in India*
1854	first short rise
1859	432
1865	3,000 *
1869	5,015
1878	8,000 *
1890	16,000 *
1900	21,000 *
1913/14	34,656

Sources : D R Gadgil, "Industrial Evolution of India."
P A Wadia and K T Merchant, "Our Economic Problem", pp 419-420, provided bases for the starred estimates.

Simultaneously with this growth of the railway network there was a rapid development of three large industries — two processing industries and one mineral. In these industries there was a large Indian as well as English investment and ownership. Certain data with respect to the growth of these industries are presented in Table 3.

Apart from this industrial growth there was major investment in irrigation works and the area under irrigation rose from 29 million acres in 1880 to 44 million in 1903. This was also a period of heavy investment and rapid growth in the plantation industry — tea especially, but. to a lesser extent coffee plantations also.

But No Rise In Incomes

Yet, in spite of an investment from British sources in the period of about £300 million (1.5 billion dollars at the then prices, and probably double that in present day prices) and the rapid rise of several major industries, there was little change in annual per capita income. A set of very crude estimates for certain years in this period indicates an average per capita income range of Rs. 18-35 in current rupees during the same years or period. The proportion of urban population to the total remained at about 9-10 per cent; and in the 1911 Census only about 2.1 million workers were employed in factory industry; and of these over 800,000 worked on plantation. (This was probably about 2 per cent of the labour force at that time)[1]

[1] See V K R V Rao "The National Income of British India, 1931-1932," p 2;
K Davis, "The Population of India and Pakistan." p 206; D R Gadgil, *op cit,* pp 136 and 115.

Although some of the rise in out put was absorbed by the growth of population during this period, the rate of population increase was very low by present standards. Davis estimates that the population in 1871 was 255 million, and that by 1901 it had reached 285 million. This is a rise of 12 per cent in thirty years, or an annual rate of less than 0.5 per cent.[2] It is doubtful that the rate of increase was greater in the previous twenty years. Clearly the rise in annual output absorbed by the growing population was small at most.

The purpose of this paper is to indicate certain hypotheses from economic theory and development economics to explain this phenomenon of stagnation, These hypotheses will centre upon the arguments that in this period investment in other industries would have been unprofitable under a government not prepared to provide pro tection to new industries; and would have been less profitable or far riskier than alternative investment in other non-industrial directions.

Both Schumpter and Rostow. among others, have stressed the role of 'leading sectors" in European and American development: and these sectors, through the phenomenon described by Hirschman as "linkage", have stimulated growth in related industrial fields. In both England and the United States the cotton textile and railroad industries have filled the leading sector role. and by their development haw stimulated the growth of mineral and engineering industries. This "backward linkage" did not occur in India, except for one notable exception — the coal industry, which was directly stimulated by the growing railroad industry, to which it sold 30-40 per cent of its output during this period.

Why Coal But Not Other Industries?

Why did the coal industry grow. but not others, under the stimulus of the leading sectors? Coal is a bulk product whose transport cost is extremely high relative to its total price if it must be shipped from Europe to India. It would be far cheap to mine it in India and use it nearer to the point of origin and India had the coal which could be mined and used. The same was not true for machinery products. There was no machinery industry in India, the cost of sea transport of machinery adds only a small proportionate amount to the price of the product, and the quality of English machinery was known and was high. At the same time the manufacture of machinery in India would have been most risky, with a limited market and with no protection from imports under a policy of free trade. It thus proved economic for the textile manufacturers in India (both English and Indian) and the railroads to import English machinery rather than take the risk of setting up machinery plants which, at this time, would also have had to import the basic raw material — steel. When this is combined with the connections existing between English owned firms in India and firms in England the lark of development of machine industry becomes understandable on largely economic grounds, and would help explain the absence of any "back" ward linkage" from the textile, mining and railroad industries.

There would also be a variety of economic factors that would explain the failure of any consumer goods industries, other than cotton textile industry. to develop. The first of these would be the very low level of initial per capita income, approximately Rs 20, which is far he-low the level of per capita income in Great Britain or the United States at their early stages of industrialization. Then the growth of the cotton textile industry was not a net investment for the economy as a whole, but was accompanied by the continued impoverishment of the textile handicraft industry — India's major rural industry. *A* part of any gains in worker income in the factory textile industry would be offset by declining incomes in the handicraft textile industry. At the same time it is unlikely that the real wages in factory industry were in fact far above incomes in agriculture since the pressure of population from the farms, especially in light of the occurring famines, would act to keep wages in industry low. Thus there would be little demand for manufactured consumer goods on a mass basis, except for cotton textiles, and the demand for these would simply have replaced the demand for handicraft cotton textiles.

Effect of Low Wages on Demand

The period from 1860-1900 was marked by two major periods of famine, occurring during the latter part of the decade of the 70 's and in the decade of the 90's. Population rose in India by only 1 per cent during each of these two entire

Table 3 : Growth of Three Indian Industries, 1850-1906

Year	Cotton Textile Industry [Mills (M), Spindles (S) & Workers (W)]	Jute Textile Industry [Mills (M), Spindles (S) & Workers (W)]	Coal Mining [Mines (M) & Out put (O)]
1851-54	First Mill	First Mill	M : 3
1861	M : 12		
1869	—	—	O : 467,000 tons
1879-80	M : 58 S : 1.4 million W : 39,537	—	M : 56
1882	—	M : 20 W : 20,000	
1885	—	—	M : 68 O : 1.3 mill tons
1889/90	M : 114 S : 2.9 million W : 99,224		M : 82 O : 2.2 mill tons
1895/96	—	M : 28 S : 214,679 W : 78,114	
1900/01	M : 194 S : 4.9 million W : 156,355	M : 36 S : 331,382 W : 114,795	O : 6.0 mill ton
1906	—		O : 9.1 mill tons

Source : D R Gadgil, *op cit.*

[2] K Davis, *op cit,* pp 26—29.

decades. These famines would have contributed to keeping real wages of industrial workers low, and to reducing rural demand for manufactured industrial goods. If the effects of poor crops were similar to what the present effects of poor crops are, these periods would also have been ones of high money wages and raw material prices in industry, resulting in reduced profits and industrial activities, so that much of the gain of the more prosperous years would have been reduced or wiped out. For the higher income group, the larger part of its consumption expenditure was probably on imported consumer goods in the absence of Indian production and under the influence of English consumption habits and the demonstration effect of the English rulers.[3]

Thus on the basis of a variety of economic factors, operating within the framework of the then govern" ment's policies, it is possible to present a series of plausible hypotheses for the absence of economic development in India.

The policies of the English Gov. ernment during this period were essentially passive. It is unnecessary to bring in intent; the government was unwilling on philosophic grounds either to take positive steps to assist the growth of industry apart from building the rail roads or to protect new industries from foreign competition. There is also the question to what extent tin apparent volume of British investment in India was reduced by the outflow of resources to pay for pa- and present British services (government, pensions, etc) interest on the Indian debt, in large part representing military expenditures.

Under all these circumstances one does not need a wide variety of sociological reasons to explain the absence of development in India. In fact a reason frequently given, that the Indians were averse to money-making, was not correct in Bombay or Gujerat where an Indian owned textile industry grew up (it may have some greater validity in other regions hut this is doubtful); and it is unnecessary to postulate a deliberate English attempt to keep down Indian industry, if this had existed it would be difficult to explain the growth that did occur.

In summary we have presented several largely -economic hypotheses which could provide a basis for research into a period of Indian economic history that is not only of crucial interest to the economic historian of India, but is also of great interest to the development economist in general.

3 See on much of this, the provocative remarks in D M Bensusan-Butt, "On Economic Growth", especially pp 40-41; 142-145; 146-150.