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Central Economic Planning and India's Economic Performance, 1951–1965

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G. P. MANISH

While India remained under colonial rule during the first forty-seven years of the twentieth century, its national income grew at the low rate of 1.3 percent per annum. From 1900 to 1914, the growth rate was 1.45 percent, and income per capita grew by 1 percent per annum. Economic performance worsened between 1914 and 1947. The national income grew at an average rate of 1.08 percent per annum, and income per capita was essentially stagnant, recording a growth rate of 0.06 percent per annum (Roy 2006, 78).¹ In stark contrast, the growth rates of gross domestic product (GDP) recorded for independent India during the first fifteen years of central planning were much higher. India's GDP growth rate was nearly 4 percent per annum during the first two Five-Year Plans (FYPs), spanning the years 1951–56 and 1956–61, respectively, and it was 4.5 percent per annum during the first four years of the Third FYP, from 1961 to 1965 (Panagariya 2008, 23).² The rate of growth of GDP per capita during the same period averaged 2

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1. Given that taxes as a percentage of national income were a low 5–7 percent, and given that net factor income from abroad was not sizable, national income figures for preindependence India serve as a good proxy for GDP figures.

2. India's fiscal year begins on April 1 and ends on March 31. Each FYP covered five fiscal years. For example, the First FYP spanned the years 1951–52 to 1955–56. Here this period is denoted by

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percent, which is impressive when compared to the rate in colonial days. Writing in 1965, K. N. Raj succinctly summarized the contrast in the recorded growth rates: “The rate of economic growth that has been achieved in India since 1950–51 is 2 to 3 times as high as the rate recorded earlier under British administration. As a result, the percentage increase in national income in the last thirteen years has been higher than the percentage increase realized in India over the entire preceding half a century” (1965, 2).

Several economists, after observing the foregoing data, concluded that the introduction of economic planning caused a significant improvement in India’s economic performance. The economists who came to this conclusion unsurprisingly include planning enthusiasts (e.g., Raj 1965; Millikan 1968; Rao 1983; Chakravarty 1987;). After all, for those who defend India’s economic policies in the planning era, this boost to India’s GDP growth rate was Indian planning’s biggest achievement.

It is surprising, however, that Jagdish Bhagwati, a vigorous supporter of the post-1991 market reforms and an eminent critic of India’s experiment with planning, holds the same view. Over the years, he has argued that India’s planning apparatus instituted an inefficient policy framework that stifled productivity and innovation (Bhagwati and Desai 1970; Bhagwati and Srinivasan 1975; Bhagwati 1993). He has trenchantly stated that the “maze of Kafkaesque controls” imposed on India’s private sector during the planning years had “no rationale in economic or social logic” (1993, 50) and also has, on more than one occasion, praised the pro-market reforms of the 1990s (Bhagwati 1993; Bhagwati and Srinivasan 1993).

Nevertheless and seemingly at odds with his economic *weltanschauung*, Bhagwati had the following to say about India’s economic performance during the years from 1951 to 1965: “The overall performance, in terms of absolute and per capita incomes, of the three Plans is on the whole quite respectable. . . . Furthermore, this performance represents a distinct improvement over the performance in any historical period for which information is systematically available; it certainly represents an acceleration of the growth we recorded . . . for the preceding five decades of India’s modern history” (Bhagwati and Desai 1970, 64). Writing more than two decades later, he does not seem to have changed his mind. Instead, he agrees with those who argue that “compared to the pre-independence period under British rule, the Indian growth rate (post-independence) has been remarkable” (1993, 24).

It is remarkable that an author so critical of planning in India should hold this view regarding India’s economic performance under the first three FYPs. Although Bhagwati often finds fault with the GDP growth rate during this period for being lower than what it should have been and for being lower than the growth rates

“1951–56,” end-point years included. The same notation applies to all other time periods. The figures provided exclude the GDP growth rate recorded for the fifth year of the Third FYP (3.7 percent) because a widespread drought drastically affected agricultural output in that year. Including this year’s figure would reduce the GDP growth rate in the Third FYP to 2.8 percent.

recorded in other developing countries, such as the East Asian economies, his opposition to planning seems rather weak.³ If central planning boosted India's GDP growth rate, and if this increase is interpreted as an indicator of significant improvement in India's economic performance, what accounts for the opposition to economic planning? One might argue that the poor growth rates of the late 1960s and 1970s were caused not by the failures of central planning per se, but instead by planning gone astray and done poorly. In other words, one might argue that nothing is fundamentally or essentially wrong with the policy of centralized planning. Thus, instead of embracing market forces, perhaps the solution to India's economic ills in the 1990s lay in a reform of the planning process to make it work properly, as it had under the first three FYPs.

In this article, I challenge the view that the introduction of planning led to a marked improvement in India's economic performance. I argue that under the first three FYPs India experienced both stagnation in the living standards of the masses and massive malinvestment of resources, despite the measured GDP growth. To support my argument, I draw on the works of father and daughter B. R. Shenoy (1963, 1968) and Sudha Shenoy (1971), whose analysis of India's economic development during this period has been largely ignored. I also draw on a broader literature (Lavoie 1985; Higgs 1992, 2004; Powell 2005) that critiques the policy of forced industrialization and debunks the idea of "wartime economic prosperity" by applying the theoretical insight, first advanced by Ludwig von Mises (1990, 1998) and extended by Friedrich A. Hayek (1945, 2009), that economic calculation is impossible in a centrally planned command economy.

The Indian Economy under Economic Planning, 1950–1965

The Planning Apparatus

Central economic planning in India began in the midst of World War II. As B. R. Tomlinson notes, in an effort to channel resources as required to promote prosecution of the war, "all mill production of wool textiles, all factory production of leather and footwear, all organized production of timber, nearly three-fourths of steel and cement production, over two-fifths of paper production, about one-sixth of cotton textile production and the whole of the normal quota of 600 million yards of cotton yarn had been directed away (by the colonial government) from the civilian economy to serve military requirements" (1992, 277).

3. Economist Arvind Panagariya holds views similar to Bhagwati's. He, too, is a vocal critic of planning in India and a supporter of the market reforms, but, like Bhagwati, he also believes that the first fifteen years of planning yielded an improvement in economic performance. He attempts to escape the contradictions in these views by arguing that the period 1950–65 was not one of extensive government controls over business but instead was a relatively liberal period in India's economic development (2008, 22–46). A critique of his views is, however, beyond the scope of this article.

The huge reduction in the supply of consumer goods and a whopping 700 percent increase in the money supply during the war years caused a savage rise in the prices of consumer goods. The government's response was to impose a slew of price controls, distribution controls, and rationing schemes for a host of commodities. The rationing and procurement apparatus for food grains was particularly harsh and all pervasive. As the unofficial American Famine Commission noted, "No country in the world, with perhaps the exception of Russia, has gone so far [as India] in controlling basic food distribution—not even Germany under the Hitler dictatorship" (qtd. in Tomlinson 1992, 279).

Furthermore, a system of import controls and capital-issues controls as well as a rudimentary system of industrial licensing were introduced, all in the name of controlling inflation and conserving scarce foreign exchange.

Most of these controls outlived the war. In fact, the infatuation with economic control and planning spread to the imperial government as well. Toward the end of the war, in 1944, it set up the Department of Planning and Development, which in the following year issued "a Statement of Industrial Policy which foreshadowed in many ways the Industrial Policy Resolutions of 1948 and 1956" (S. Shenoy 1971, 21).

After independence in 1947, the newly empowered Indian government continued to add to this planning apparatus and enshrined many of the inherited regulations and powers of control in legislative dictate. The Planning Commission, instituted in 1950 with Prime Minister Jawaharlal Nehru at its helm, had responsibility for drafting the document that formed the entire planning system's cornerstone—namely, the FYP. Each plan was supposed to spell out the exact amount of the investments to be made by the public and private sectors and how that investment would be allocated across sectors. It also included a list of targets to be achieved by various industries for the next five years.

The Industrial Policy Resolutions (IPRs) of 1948 and 1956 divided the economy's industries into three broad categories. The first category included industries in which either the state would have a total monopoly or only the state could undertake any new investment. Existing private firms in these industries could continue to operate and expand, but no new private firms could enter. The second category included industries in which the state would gradually establish new units, while allowing new private firms to enter as well. The third category contained the industries that would be the private sector's responsibility. The state, however, could enter these industries if it wished to do so. In the IPR of 1956, for example, "[s]eventeen industries, including heavy electrical plant, heavy castings, and forgings of iron and steel, were grouped into one category where the state would either have total monopoly or have exclusive right to establish new industrial establishments. Twelve other industries . . . were specified as the sector where the state would progressively establish new units. . . . The remaining industries were left largely to the initiative of the private sector, although naturally the state retained the option to

enter” (Bhagwati and Desai 1970, 142–43). Although in practice the government did not always adhere to the IPRs’ rigid categorizations, it clearly planned to build a significant public sector while simultaneously freezing the private sector out of a sizable chunk of the economy.

Having chosen not to nationalize the industries and to allow the private producer to exist, the Indian state armed itself to the teeth with a vast set of controls over the private sector. The Industries (Development and Regulation) Act of 1951 instituted the highly restrictive industrial licensing regime, the most important control over private industry in the entire planning apparatus. Under the act, all private industrial undertakings had to register with the central government. No new industrial undertaking could be set up, and no existing undertaking could be expanded without obtaining a license from the Government of India. Furthermore, the Industries Act also “empowered the central government to assume direct management or control of industrial undertakings under certain circumstances” and “to control the prices and distribution of specified scheduled industries or undertakings” (Panagariya 2008, 35).

Several other laws along the same lines were instituted rapidly. The Essential Commodities Act of 1955 gave the central government the authority to “regulate or prohibit the production and control the supply, distribution, and price of certain enumerated commodities and of any other commodities which, by order may be declared ‘essential’” (Hanson 1966, 494). The Companies Act of 1956 constituted “one of the most detailed and stringent codes of business legislation to be found anywhere in the world” (Hanson 1966, 486), “[laying] down detailed regulations governing the establishment and management of companies, including the appointment of agents, the remuneration of directors, the manner of conducting board meetings, the manner of payment of dividends, etc.” (S. Shenoy 1971, 23). Furthermore, the Capital Issue Control Act of 1956 gave the government the power to control the issue of capital by joint-stock companies.

Finally, a vast apparatus of import and export controls was carried over from preindependence days. These controls, tweaked and changed in some ways after independence, consisted of an overvalued exchange rate and quantitative restrictions on the amounts of imports and exports of various commodities. Describing these controls as they existed in 1956–66, Bhagwati and Desai note: “The import and exchange policy regime, throughout this period, aimed at comprehensive, direct control over foreign exchange utilization. Thus administrative decisions had to be made over the allocation of foreign exchange for practically all uses in the economy. . . . Reliance on the direct allocative mechanism was thus almost complete during this period” (1970, 283).

The controls just described were not the Indian state’s ad hoc, unconnected interventions into the private sector. Instead, they fit snugly into the overall central-planning apparatus. They were means to an end, which the Indian state used to make private production and investment conform to its plan priorities. Private-sector

investment was to be “directed by the state, by physical controls operated primarily through an exhaustive licensing system combined with a detailed setting of ‘targets’ by the Planning Commission” (Bhagwati and Desai 1970, 231). Furthermore, as spelled out in the First FYP, the entire price system was to be subordinated to the needs and requirements of planning. Prices would no longer result from the voluntary interactions of buyers and sellers in the marketplace. Instead, they were to become mere parameters, tools in the hands of the state. In the planners’ words, “[T]he maintenance of a structure of prices which brings about an allocation of resources in conformity with the targets defined in the Plan must be the consistent aim of economic policy” (India Planning Commission 1953, chap. 2).

Along with the price system, fiscal policy, monetary policy, and the entire banking system would be designed so as to enable the achievement of plan targets. Regarding the operation of the banking system under planning, the First FYP said: “The proper discharge of its functions by the banking system will necessitate its operation more and more in the light of the priorities for development indicated in the Plan and less and less in terms of returns on capital. The banking system—and in fact the whole mechanism of finance including insurance, the stock exchanges and other institutions concerned with investment—will thus have to be fitted increasingly into the scheme of development visualized for the economy as a whole” (India Planning Commission 1953, chap. 2).

Thus, after independence a command economy was to be instituted in India. The planning apparatus was designed to ensure that the state would decide how much would be saved and invested as well as how that investment would be allocated across different sectors and therefore which products would be produced. To bring its plans to fruition, the state had at its disposal a raft of controls to hassle and harry the private sector into doing its bidding. Private enterprise, therefore, was effectively to cease to exist. In fact, the characteristic function of private entrepreneurs—deciding what to produce and in what quantities—was no longer to be permitted. The private sector was to be “private” in a legal sense only. From an economic standpoint, it was to be a wing of the government, robbed of its crucial role in making production decisions.

The Goal of Planning in India

Beginning in the second half of the nineteenth century, major changes had begun to ripple through the Indian economy, largely as a result of its opening up to “the influences emanating from the rapidly growing areas centering on the North Atlantic” (S. Shenoy 1971, 13). The division of labor and commercialization had increased as more output was sent to market. The second half of the nineteenth century and the first half of the twentieth had brought “the extension of commercial crop cultivation (e.g., of cotton, jute, tobacco and oilseeds) for domestic and international markets” (S. Shenoy 1971, 14). Cotton and jute industries and tea plantations emerged. In fact, at the time of independence India could boast of having the world’s

largest jute textile industry and the world's sixth-largest cotton textile industry and of producing nearly half of the world's total tea exports.

Despite these modernizing and industrializing influences, however, in 1947 India's economy was still highly agrarian, with agriculture accounting for more than 50 percent of the national income, in contrast with manufacturing industries' 12.3 percent. Furthermore, more than half of the manufacturing output originated in the unorganized, small-scale sector; modern, large-scale manufacturing contributed approximately only 6 percent to the country's national income (Sivasubramonian 2000). Almost 75 percent of the total labor force worked in agriculture, whereas less than 3 percent found employment in factory enterprises and mining (Malenbaum 1971, 23).

Production in industry was heavily biased toward consumer goods: industries such as cotton textiles, jute textiles, and vegetable oil contributed 62 percent of the total industrial output, whereas the iron and steel and engineering industries contributed a meager 11.5 percent (Tomlinson 1979, 33). In fact, around 1947 India could hardly claim to possess a capital-goods industry at all, and the country depended heavily on imports for machinery, transport and electrical equipment, heavy and fine chemicals, and other such basic industrial inputs (Morris 1983, 642).

In view of this production structure, it should come as no surprise that India was primarily an exporter of agricultural commodities, such as raw cotton, raw jute, and oil seeds as well as of light-manufactured consumer goods, such as tea, cotton textiles, and jute textiles. India's imports, in contrast, consisted largely of capital goods, industrial inputs, and manufactured consumer goods (Chaudhuri 1983; Roy 2006).

The nation's existing production structure irked the planners. They worried that India produced hardly any capital goods and only a few industrial intermediate goods. They believed that large-scale domestic production of these goods, which constituted the so-called "heavy and basic industries," was the sine qua non for the achievement of economic growth. They also believed that increasing the domestic capital stock was essential for the increased production of consumer goods in the future. As expressed in the First FYP, "the key to higher productivity and expanding levels of income and employment lies really in stepping up the rate of capital formation. The level of production and material well-being a community can attain depends, in the main[,] on the stock of capital at its disposal, i.e. on the amount of land per capita and of productive equipment in the shape of machinery, buildings, tools and implements, factories, locomotives, engines" (India Planning Commission 1953, chap. 1).

The planners believed, in fact, that the nation's dependence on imports for meeting its capital-goods requirements was the biggest obstacle in the path of its economic progress. Consider, for example, the following passage from P. C. Mahalanobis: "Why do we then import machinery? Because we have not started factories to fabricate heavy machinery needed for the production of steel, cement, etc. . . . [O]nce we do this, and establish a heavy machine building industry we shall be able to use our own iron ore and with our own hands produce steel; and then

use the steel to produce more machinery. . . . [O]ur dependence on foreign supplies will be greatly reduced. *The main obstacle to rapid industrialization thus removed, we shall be able to increase production and employment quickly*” (1961, 48, emphasis added).

The immediate goal of planning, therefore, was to diversify India’s production base and to industrialize the nation rapidly. But what of the agricultural and consumer-goods sectors? Here, too, the desire was for across-the-board “Indianization.” After all, what was the point of stepping up the domestic production of capital goods if they could not be used in the domestic production of agricultural and consumer goods? Consumer goods that were previously imported must now be produced at home, and exports of agricultural commodities and consumer goods that were already produced in India would be discouraged. Instead, the supply of these goods was to be reserved for the home market.

Thus, inspired by the ideology of economic nationalism, the overarching goal of planning in India was to achieve economic growth and an improvement in living standards through the pursuit of economic self-sufficiency. This goal entailed a radical upheaval in the existing production structure, with increased emphasis being placed on the economy’s “commanding heights” by employing the various powers of control provided by the planning apparatus. Public-sector investment would be focused on heavy and basic industries, such as engineering goods, machine tools, machinery, and heavy chemicals. Private-sector investment would be forced into these sectors via the industrial licensing system. These investments would be made profitable by the use of price controls, an overvalued exchange rate, and controls over existing imports of capital goods and industrial intermediate goods. Furthermore, controls would be placed on the export of domestically produced agricultural and consumer goods, increasing their supplies in the home market, and imports of consumer goods would be restricted.

Forced Industrialization in Practice: Stagnation of Living Standards

During the fifteen years under consideration here, total investment in the economy increased by a factor of 3.4, with government investment expenditure increasing 4.4 times and private investment expenditure increasing 2.4 times. The annual level of investment in the economy rose by 232 percent, from 7,540 million (current) rupees to 17,550 million (S. Shenoy 1971, 30, 55). The lion’s share of these resources flowed into the industrial sector. Total public-sector investment in industry increased from 550 million (current) rupees during the First FYP years to 15,200 million rupees during the Third FYP years; the corresponding figures for private-sector investment in industry were 2,330 million (current) rupees and 10,500 million, respectively (India Planning Commission 1966, 11).

The majority of the resources channeled into the power and transport sectors must also be included in total industrial investment, given that the bulk of the investment under these two heads went toward fulfilling the requirements of industry. The industrial sector accounted for 65 percent of electricity consumption during this period, whereas the domestic sector accounted for a meager 7.5 percent (S. Shenoy 1971, 47). In regard to investment in the transportation sector, the Second FYP frankly admitted that “since the second world war [*sic*] the transport system has been increasingly oriented to serve the needs of industrial development” and that the FYP aimed to “carry this process much further” (India Planning Commission 1956, chap. 21). This bias toward industry is also reflected in the fact that the railways, which accounted for 63 percent of total transport investment during this period, experienced only a 44 percent increase in total passenger kilometers, whereas freight increased by a much greater 120 percent (India Planning Commission 1966, 68). Total investment expenditure in these three areas—industry, power, and transport—accounted for approximately 59 percent of total public-sector expenditure and nearly 50 percent of total investment expenditure (private and public) during the Second and Third FYPs (S. Shenoy 1971, 49–50).

In keeping with the planners' ideology and aims, the focus in the industrial sector was on the basic and heavy industries. Over the course of the Second and Third FYPs, the metal, machinery, and chemical industries together accounted for as much as 70 to 80 percent of the total planned expenditures in industry (Bhagwati and Desai 1970, 85). The draft outline of the Fourth FYP also observed, “A special feature of industrial development, especially after the commencement of the Second Plan in 1956–57 has been the growth of capacities in steel, aluminum, engineering, chemicals, fertilizers, and petroleum products. Apart from these[,] large investments have been made in industries producing heavy electrical equipment, heavy foundry forge, heavy engineering machinery, heavy plates and vessels, etc.” (qtd. in Bhagwati and Desai 1970, 85).

The consumer-goods industries, however, were neglected: they accounted for roughly one-quarter of the total investment in industry during the decade from 1956 to 1966. A host of controls was placed over these industries to deliberately limit their output and their demand for investment. The modern cotton textile industry, the biggest and most prominent of the mass-production consumer-goods industries, was singled out for especially rough treatment. Raw cotton could be imported only “on license from government against the ‘availability of exchange,’” and official permission was required for the textile mills to buy and sell this raw cotton. “The setting up of new units and the addition of spindles or looms in existing units [were] controlled by government,” and the Textile Commissioner's Office decided what range of textiles a mill could produce (S. Shenoy 1971, 24). Furthermore, although the industry's output was restricted in these ways, the output of the higher-cost, less-productive, small-scale cottage textile industry was favored and subsidized (Malenbaum 1971, 72).

The agricultural sector's fortunes during this period stand in stark contrast to the industrial sector's. As Vijay Joshi and I. M. D. Little correctly point out, the planners' attitude toward agriculture was one of "misplaced optimism that agricultural output could be increased at low cost by institutional changes, such as cooperative farming," coupled with an "inadequate recognition that the input base of this sector was weak and needed radical improvement" (1998, 48). This attitude is reflected in the fact that the agricultural sector accounted for a meager 13 percent of actual public-sector investments between 1951 and 1969. Furthermore, a sizeable chunk of this investment (25–35 percent) was spent on funding the previously mentioned institutional changes—that is, on programs such as community development and the cooperative movement—which were run inefficiently and were, at best, auxiliary and peripheral to agricultural production (S. Shenoy 1971, 53). In addition to this direct public-sector investment in agriculture, a considerable sum (roughly 11,000 million current rupees) was spent to add irrigation capacity, of which nearly 50 percent lay unused during the First FYP years; almost 23 percent remained unused as late as 1966. The expenditure on irrigation also did not succeed in increasing the total area irrigated as a proportion of total cultivated area, which remained a constant 17.5 percent through the period (S. Shenoy 1971, 53).

The relative neglect of the agricultural sector in allocations of public-sector investment during this period went hand in hand with a decline in private capital per head in the rural areas. According to an estimate by Tara Shukla, gross private capital formation in land, livestock, implements, and private irrigation increased 17 percent between 1950–51 and 1960–61 (cited in S. Shenoy 1971, 53). Given that the population grew 22 percent during this period, this small increase yielded a fall in private capital formation per capita (S. Shenoy 1971, 54). The estimates by the Reserve Bank of India are even lower, indicating that in the decade spanning the years 1951–52 to 1961–62 a 46 percent reduction in private gross rural fixed capital formation from 6,500 million to 31,600 million rupees (in constant prices) occurred; the net result was a rather drastic fall in per capita private capital invested in agriculture (S. Shenoy 1971, 54–55).

The vast amount of resources channeled into heavy industry brought about a significant increase in output. In the modern industrial sector, output increased by 191 percent over the course of the first three FYPs; the output of the basic or intermediate good industries grew by 203 percent, and that of the heavy or capital good industries grew by 292 percent during the Second and Third FYPs (Malenbaum 1971, 135; S. Shenoy 1971, 40). Disaggregating further shows that among the mechanical engineering industries in the ten-year period from 1955–56 to 1965–66 output of machine tools grew by 3,525 percent, of cotton textile machinery by 440 percent, of sugar mill machinery by 3,750 percent, and of diesel engines by 1,466 percent. In the electrical engineering industries, the fifteen-year span from 1950–51 to 1965–66 was a time of 635 percent increase in electric motor output; in the chemical industries, the output of sulfuric acid increased 555 percent and of soda ash

635 percent. Among the intermediate-goods industries, steel output increased 344 percent and aluminum output 1,450 percent during the same period.⁴

The increase in output recorded by the consumer-goods industries, in keeping with the low level of investment in them, was a far less impressive 61 percent. Furthermore, in the consumer-goods sector, growth in the output of luxury goods consumed by a narrow urban elite far outstripped the growth in the output of goods consumed by the broad masses, especially the rural masses. The distinction between these two types of consumer goods is especially relevant in a country as poor and rural as India was during this period, when nearly 82 percent of the total population lived in the villages.

Thus, between 1950–51 and 1965–66 the output of automobiles grew by 318 percent, of sewing machines by 1,200 percent, and of electric fans by 582 percent.⁵ However, when one examines the output of the one industrial consumer good that the masses consumed—namely, cotton textiles—a far bleaker picture emerges. Total output of cotton cloth grew by 76 percent during this period, from 4,215 million meters to 7,440 million meters, with an annual growth rate of 3.8 percent, which is roughly in line with the recorded GDP growth rate. The bulk of this increase, however, was owing to growth in high-cost, subsidized handloom cloth, with this sector recording a compound annual growth rate of approximately 9 percent. Output in the low-cost, factory-based cotton textile sector grew at a far lower rate of 1.7 percent, which is significantly lower than the recorded GDP growth rate for this period.

Availability of cotton cloth per capita rose from 11.0 meters per year to 14.6 meters per year over the fifteen-year period from 1950–51 to 1965–66. Nearly all of this increase took place during the First FYP—that is, in the five years from 1950–51 to 1955–56, when the availability of cotton cloth per capita grew from 11.0 meters to 14.4 meters per year, or at an annual compound rate of 1.8 percent. The bulk of this increase, however, represented a recovery to preindependence production capacity after the dislocations and drop in output caused by World War II and the ravages of partition. Cotton cloth availability per capita then virtually stagnated over the following decade.⁶ Given that in 1938–39 per capita cotton cloth availability in India was 13.1 meters per year, the annual growth rate of per capita cotton cloth availability during the first three FYPs over preindependence levels was barely 0.8 percent, far lower than the growth rate of GDP per capita. Furthermore, as noted previously, the bulk of even this meager increase consisted of increased availability of higher-cost cloth per capita from the traditional sector.

4. All data regarding output growth in this paragraph are taken from the Government of India's *Economic Survey* for 1968–69 (India Ministry of Finance 1968–69, table 1.14).

5. All data regarding consumer goods output in this paragraph are taken from India Ministry of Finance 1968–69, table 1.14.

6. Preceding data are taken from India Ministry of Finance 1968–69, table 1.11.

Food-grain (cereals and pulses) output in 1964–65 was 62 percent higher than in 1950–51, increasing from 55 million tons to 89 million tons.⁷ However, if we also take the drought year of 1965–66 into consideration, the growth in food-grain output was a far lower 31 percent, an annual growth rate of 2.2 percent over the period as a whole. The bulk of this increase came in the first five years as food-grain output grew by a mere 0.04 percent per annum during the decade from 1955–56 to 1965–66. In fact, total food-grain production in 1965–66 was only 72 million tons, a full 17 million tons less than that in 1964–65 and a bare 3 million tons more than in 1955–56. This massive fall in output, caused by drought, is probably the best indicator that the vast sums of money spent on irrigation were mostly wasted and produced barely any result because agriculture was as monsoon dependent in 1965 as it was in 1950.

The food-grain availability per capita per day rose from 13.9 ounces in 1950–51 to 16.7 ounces in 1964–65. The availability in the following year, 1965–66, was a much lower 14.2 ounces. Here, too, more than half of the increase was recorded in the first five years of this period—that is, from 1950–51 to 1955–56, when the availability rose from 13.9 ounces to 15.2 ounces. Thereafter, food-grain availability per capita remained more or less stagnant or declined.

The situation is far bleaker if one takes into consideration the availability per capita of domestically produced food grains, which remained stagnant at 14.9 ounces per day during the period from 1955–56 to 1964–65. This level of availability was quite low and below the nutritional minimum prescribed by the Government of India in its jail and army rations (Shenoy 1971, 68). It follows, therefore, that food-grain availability per capita during this period rose only because food-grain imports rose, from 1.4 million tons in 1955–56 to 7.5 million tons in 1964–65. In fact, food-grain imports increased throughout the fifteen-year period under consideration, from an annual average of 1.7 million tons (2.7 percent of domestic production) during the First FYP to an annual average of 6.4 million tons (7.9 percent of domestic production) during the Third FYP.⁸ This increase further underscores the sorry state of Indian agriculture, especially given that the agricultural sector's share in total employment actually rose from a high 68.4 percent of total employment in 1950–51 to an even higher 72.2 percent in 1960–61 (S. Shenoy 1971, 36). Thus, in a strange and ironic situation the world's largest agricultural nation, with nearly three-fourths of its vast population employed in agriculture, had to rely on food-grain imports to raise its level of food-grain availability per capita to minimal nutritional levels.

Thus, the highest output growth rates were recorded for goods far removed from mass consumption—namely, the goods produced in the heavy and basic industries and elite, luxury consumer goods—but the lowest growth rates were realized for goods that really mattered to the masses—namely, food grains and cotton cloth. This uneven

7. All data regarding agricultural output in this paragraph are drawn from India Ministry of Finance 1968–69, table 1.7.

8. The data here are from India Ministry of Finance 1968–69, table 1.9.

growth performance was largely in keeping with the resource-allocation pattern during this period. As discussed earlier, the growth rates of cotton cloth and food-grain output during the Second and Third FYPs were far below the GDP growth rate. For example, the output growth rate in the low-cost, factory-based cotton textile sector was far lower than the GDP growth rate for the entire period of the three FYPs. The amounts of cotton cloth and of food grain available per capita did not fare much better—they were significantly below the growth rate of GDP per capita and barely increased over their preindependence levels. Therefore, we may conclude that although a GDP growth rate of 4 percent and a GDP per capita growth rate of 2 percent might have been far higher than any corresponding figures recorded before independence, they definitely did not indicate a significant improvement in the masses' standard of living. In short, the fifteen years in question were not a period of significant economic progress.

Investment in Industry: Wasted Resources

The previous section noted that from 1950 to 1965 an impressive GDP growth rate went hand in hand with a stagnant or barely improving standard of living for the masses. One might argue, however, that a shift occurred along the Indian economy's production-possibilities frontier. Yes, the availability per capita of essential commodities such as food grain and cloth did not increase significantly, but only because most of the economy's savings was channeled into the heavy and basic industries. Consumption was reduced because of increased investment and capital formation; although this trade-off may not have resulted in increased living standards in the short run, it was necessary for raising living standards in the long run.

This argument can be criticized on several grounds, however. First, it fails to note that at the time of independence India had a comparative *disadvantage* in the production of capital goods and that the bulk of the industrial expansion during this period took place “in defiance of the doctrine of comparative costs” (B Shenoy 1963, 27). Precisely because India's costs of production were “uneconomic over a wide range of industries, relatively to the costs abroad,” the planners had to envelop the economy in a mesh of controls in order to “force the establishment of industries—by banning or restricting imports and by offering inducements to domestic manufacturers” (B Shenoy 1963, 5). This factor also explains why the preindependence Indian economy did not include a capital-goods sector despite the existence of robust domestic demand for capital goods, with the large cotton and jute textile industries providing a huge, ready market for textile machinery, machine tools, and chemicals. In fact, Indian entrepreneurs made numerous attempts to kick-start the heavy and basic industries at home, all of which failed because they could not compete with the more efficient manufacturers abroad.⁹

9. For a detailed analysis of the many abortive attempts to establish capital-goods industries in preindependence India, see Ray 1979.

It seems, therefore, that the goals of rapid industrialization and economic self-sufficiency were uneconomic: their costs exceeded their benefits. Resources would have been allocated more efficiently if they had been devoted to lines of production in which India seemed to have a comparative advantage—namely, the production of agricultural commodities and simple consumer goods, such as cotton textiles. After all, India had competed successfully in the world market for these goods throughout the preindependence era. It follows, therefore, that the marginal productivity of investment in these lines of production would have been higher than the corresponding marginal productivity of investment in the heavy and basic industries, and empirical evidence supports this claim. According to Sudha Shenoy, it was estimated that 10 million rupees invested in agriculture during this period would have added 5.7 to 6.9 million rupees in output. The same amount invested in the mill-textile industry would have yielded approximately 3.6 million rupees in output, but only approximately 1.8 to 1.9 million rupees when invested in the heavy industries (1971, 70). B. R. Shenoy states that in the heavy industries the “additions to the national product from the additions to investments are estimated [to have been] under 20 percent of the invested resources,” whereas in agriculture and the consumer goods industries the corresponding figure would have been a much higher 70 percent (1963, 4). Yet, ironically, the agricultural and the consumer-goods sectors were the ones neglected during the first fifteen years of planning, when they were starved of capital, their exports were controlled, and their outputs prevented from expanding.

The bulk of the domestically produced capital goods and industrial intermediate goods unsurprisingly could not compete on the world market, and these goods turned out to be more or less unexportable. Thus, in 1966–67, despite a full decade of export promotion measures, they formed just 11.6 percent of India’s total exports (by value). India’s “traditional” exports, those goods that the country had exported prior to independence, continued to account for nearly 90 percent of exports, despite the controls placed on these commodities (S. Shenoy 1971, 44).

The Indian planners, however, would not be bogged down by mundane considerations of relative costs and benefits. From the arguments they advanced to justify their policies, they clearly treated the objectives of rapid industrialization and “Indi-anization” of production as axiomatic—ends to be pursued regardless of the costs involved. In fact, in a speech Nehru delivered at a meeting of the National Development Council, he said as much: “We must give up the idea of continually getting machines from abroad. *We must build them here. Anything that comes from abroad is more expensive than the one produced by Indian labor, even though it may cost ten times as much.* . . . [W]e must aim at producing the machines and all the basic things here” (1957, 18, emphasis added).

Not only were the planners keen on pursuing clearly uneconomic ends; they could not help but pursue them in a fog of economic irrationality. As Ludwig von Mises (1990, 1998) points out, the free exchange of factors of production in a centrally planned economy is impossible, given that a single entity owns all of the

means of production. Such an economy is characterized by the absence of factor markets and therefore by the absence of factor prices that reflect opportunity costs. Thus, the central planner, unable to compare prices and costs or to weigh revenue against expenditure and therefore incapable of making profit-and-loss calculations, cannot solve the fundamental economic problem, the employment of “the available means in such a way that no want more urgently felt should remain unsatisfied[,] because the means suitable for its attainment were employed—wasted—for the attainment of a want less urgently felt” (Mises 1998, 208). This argument holds true regardless of whether the planner seeks to satisfy consumers’ wants or to satisfy ends that he arbitrarily considers important. In other words, central economic planning necessarily involves economic irrationality.

Furthermore, as Hayek (1945, 2009) argues, in the absence of meaningful factor prices, planners can never have the knowledge required to allocate scarce resources efficiently. Don Lavoie summarizes Hayek’s core thesis as follows: “The knowledge problem is the contention that a central planning board, even if very well intentioned, would lack the knowledge to combine resources in a manner that is economic enough to sustain modern technology. The choices concerning which methods of production should be used—out of a virtually unlimited number of possible methods—could not be made intelligently enough by a comprehensive planning apparatus, and so must be left to emerge as an unplanned outcome of competition among separate owners” (1985, 52–53).

Proponents of central planning might object to this argument by claiming that the planner’s problem is purely technological in nature and has no connection to human valuations. The problem the planner faces is not one of ensuring that the scarce production factors are allocated toward satisfying the most highly valued ends, but is instead an engineering one of making sure that the maximum output is derived from a given quantity of inputs. As Mises points out, however, the economic problem disappears only in a world in which all of the factors of production are either purely specific or purely nonspecific (1998, 207–8). In such a world, no problem of factor allocation arises because either each factor can be employed in only one, unique line of production (the purely specific case), or there is only one factor of production (the purely nonspecific case). Only in such a world is the planner’s problem purely technological in nature, one of ensuring the production of maximum output from a given set of inputs. The real world, however, is characterized by factors of production that are neither purely specific nor purely nonspecific. As a result, as Mises notes, “The facts that there are different classes of means, that most of the means are better suited for the realization of some ends, less suited for the attainment of some other ends and absolutely useless for the production of a third group of ends, and that therefore the various means allow for various uses, set man the tasks of allocating them to those employments in which they can render the best service” (1998, 208).

In a market-based economy, private entrepreneurs solve the economic problem by deciding how to allocate capital among the different lines of production and

simultaneously deciding which commodities are to be produced and in what quantities. These numerous private entrepreneurs, desirous of using the factors of production to produce various goods, bid for them in the factor markets. The factor prices that emerge from this bidding process reflect the opportunity costs of employing the factors. Thus, if an entrepreneur employs certain factors in a line of production and emerges with a profit, he has used the factors in a socially beneficial manner. This profit implies that consumers are willing to pay a price higher than the costs the entrepreneur has incurred, thereby indicating that the factors have been used to produce a good that consumers value highly enough. However, if the entrepreneur incurs a loss, that loss implies that he misallocated the factors and could have used them to satisfy a more highly valued end.

The situation is altogether different in a centrally planned economy, which has no private entrepreneurs, but only one overriding decision maker—the state—who is also the sole allocator of capital and thus single-handedly decides how resources are to be allocated. This condition applies both in an economy such as the USSR's in which the state has nationalized all industry and in an economy such as India's during the period under consideration here, in which a private sector and minimal private entrepreneurship exist, but the state has assumed powers of control over the private sector and directs nearly all private-sector investments. In such a command economy, factor prices do not reflect opportunity costs because the essential precondition to ensure that they do—namely, the existence of multiple allocators of capital—is absent. Instead, the planner allocates resources as he deems fit. As a result, the system of profit and loss breaks down, and the economic problem cannot be solved. Benjamin Powell, in advancing a similar argument with regard to state development planning in East Asia, succinctly summarizes the foregoing conditions:

The decision makers in the government planning bureau have no method to evaluate the opportunity cost of another industry's potential use of resources. The opportunity cost is the subjective loss suffered by the person who would have received resources if the government had not interfered with the market process. Since the planning bureau has no way of evaluating this loss, it cannot determine if the loss in output from other industries caused by promoting one industry is greater or less than the benefit produced. The planning agency has no way of knowing if it is promoting development or retarding it. (2005, 308)

Or, as Lavoie trenchantly remarks, “any attempt by a single agency to steer an economy constitutes a case of the blind leading the sighted” (1985, 4).

Thus, the central planner, faced with a plethora of production possibilities, has no economically rational way of deciding which ones to undertake and which ones to forgo. Consider, for instance, the Indian central planners' predicament. They knew their overall goals—to produce capital goods and industrial intermediate goods

domestically and to “Indianize” gradually the production of all goods. But how much of each capital good should they produce? What production target for textile machinery should be set in each FYP? What should be the target for machine-tool production? What goods should they produce less of in order to facilitate this increase in machinery and machine-tool output? Should they choose the more labor-intensive or the more capital-intensive method to produce machinery? Should they choose the longer or the shorter process for the production of machine tools? The Indian planners had no way to make these choices on the basis of economic criteria.

Bhagwati and Desai repeatedly criticize the Indian planning authorities for lacking “well-ordered priorities,” for not making choices based on “explicit economic criteria,” and for making “choices about the magnitude of investment in heavy industry as also the pattern of such investments . . . without reference to notions of economic calculus” (1970, 254–55, 239). They go on to note that “[t]he licensing authority and the departments which service it are loaded at any one time with hundreds or thousands of proposals, without clear and definite criteria to appraise their worth in terms of relative costs” (255). Furthermore, they repeatedly decry the fact that “there has been a tendency to rely upon various ad hoc criteria” in deciding how scarce resources must be invested (254). What such critics of the Indian planning process fail to note, however, is that given the impossibility of economic calculation in a centrally planned economy, the Indian planners could not possibly have made choices on the basis of relative costs and economic calculus. They had no alternative to using various ad hoc criteria in their resource allocations.

It should come as no surprise, therefore, that the Indian economy during this period was riddled with economic irrationalities. Significant “imbalances” had emerged in this economy by 1965. Far more capital goods had been produced than were demanded, and thus many of the heavy and basic industries were burdened with excess, unutilized capacity. Isher Ahluwalia reports that by 1965 the capacity utilization rate in the capital-goods industries was only approximately 65 percent and that it was similar or lower for the next ten to twelve years. She also notes that this “decline in capacity utilization of the capital goods industries . . . reflected some deep-seated problems, including the incompatibility of the structure of capacities with the evolving structure of demand” and that “in a multi-product industry such as steel, production targets were set in terms of physical tonnage with little regard for product-specific demands,” thereby implying that the emergence of excess, unutilized capacity was the result of the problems inherent in central planning (1985, 110–11). Mark Frankena (1971) paints a bleaker picture, showing that capacity utilization in some capital goods industries was much less. For example, only 27 percent of the available capacity in the heavy electrical equipment industry was utilized, and the corresponding figure for mining machinery was an even lower 16 percent (138).

Furthermore, most of the capital goods produced in India, as Frankena points out, “were manufactured to designs which were technologically obsolete or economically inefficient” (1974, 249). Designs chosen were inefficient and obsolete not only

from the point of view of the advanced economies, but even when compared to the designs chosen in other developing economies. Frankena lays much of the blame for such irrationality on the economically arbitrary criteria the government used when distributing industrial and foreign-exchange licenses (258).

Finally, the growth rate of the mass consumer-goods industries, which was low throughout the period under consideration, continued to be disappointing throughout the next fifteen years, from 1965 to 1979. According to Ahluwalia, throughout the latter period the consumer-goods industries did not boost output, and “the two most important consumer-oriented industries, i.e., food manufacturing and textiles, were among the slowest growing industry groups” (1985, 15). Shetty states that during the decade from 1966–67 to 1976–77 a “steady decline in the per capita domestic availabilities of key wage goods [food grain and cotton cloth]” occurred as a result of “a deceleration in [the] growth rate of agricultural output” and a very low growth rate of cotton textile output per capita (1994, 138–39). Thus, the vast amount of resources invested in the heavy and basic industries failed to achieve their primary goals—an increase in the future domestic production of consumer goods and an improvement in the future living standards of the masses.

Conclusion

Most economists have concluded that the institution of planning in India increased the rate of growth of GDP and therefore led to a marked improvement in economic performance. However, the analysis here shows that *despite* the impressive growth rates of GDP and GDP per capita during this period, the planners’ efforts caused stagnation in the output of the two goods consumed by the masses—cotton cloth and food grain. The growth in availability per capita of both of these goods was far less than the growth rate of GDP per capita in this period. It follows, therefore, that the masses’ living standard did not improve significantly. Nor did it improve in the following period. The per capita availability of cotton cloth fell from 14.23 sq. meters per annum in 1970–71 to 14.05 sq. meters in 1980–81. The per capita availability of food grains declined from 469 grams per day to 455 grams per day during the same period (Tata Services 1994, 29, 37, 79).

The vast amount of resources invested in the heavy and basic industries were malinvested. A great deal of capital was invested in producing capital goods and industrial intermediate goods at home that could have been procured from abroad at much lower cost. The bulk of these goods proved to be uncompetitive on the world market. Furthermore, as predicted by the argument of the impossibility of economic calculation under central planning, the forced industrialization was characterized by economic irrationalities—phenomena that never would have occurred in a market-based system with an operational profit-and-loss mechanism. Thus, many of the capital goods produced were either in excess of domestic requirements or could not be utilized because of the lack of adequate supplies of complementary production

factors, and their designs marked them as inefficient and obsolete even by developing-country standards. Most important, all of this investment in the economy's "commanding heights" failed in its primary purpose of increasing the future output of consumer goods and agricultural commodities.

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