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Abstract

This article outlines the debates amongst Indian economists on planning, transforming agriculture, poverty and income distribution, and political economy and institutions. It shows that much of this work pioneered many analyses which have come to define the sub-discipline of 'development economics'.

Keywords

agricultural subsidies; agriculture and economic development; attached labour; Bauer, P.; Bhagwati, J.; caste system; central planning; comparative advantage; conjunctural poverty; Delhi School; destitution; development economics; dirigisme; dual economies; Dutch disease; exchange controls; famine; farm size; Fel'dman, G. A.; food security; free trade; Friedman, M.; Green Revolution; homo economicus; import substitution; India, economics in; industrialization; Johnson, H. G.; land reform; Leisure; Lewis, W. A.; Mahalanobis, P. C.; Malthus's theory of population; Meade, J. E.; pastoralism; peasants; population growth; poverty; poverty alleviation; price controls; privatization; protection; public works; Ramaswami, V. K.; redistribution of income; rent seeking; rural employment; Sen, A.; shadow prices; sharecropping; Shenoy, B. R.; Stalin, J.; structural poverty; surplus labour; terms of trade; usury

Article

Economics in India has been mainly concerned with finding means to alleviate its ancient and pervasive poverty. In this article I will concentrate on the debates amongst Indian economists, highlighting the contributions they have made in the process to the new discipline of 'development economics'.

The Indian economic debate began in the early 20th century when after nearly a century of British colonial rule there were few signs of poverty alleviation, with only a modest rise in per capita income over the period (Sivasubramonian, 2000). A nationalist and Marxist literature evolved, which laid the blame for this economic stagnation on alien rule and the implementation – since the 1850s – of the twin classical liberal principles (dominant in the metropolitan centre) of laissez-faire and 'free trade'. Alien rule was epitomized by the fiscal drain of resources from India to Britain (Naoroji, 1901; Dutt, 1904). Free trade was held responsible for India's failure to industrialize and the destruction of its extensive pre-colonial handloom textile industry.

By the 1930s, the Great Depression and Stalinist Russia's success in rapidly industrializing a large, poor and mainly agrarian economy coloured the thinking of Indian economists and political leaders like Nehru. A series of economic plans were drawn up by various groups and individuals, including the National Planning Committee of the Indian National Congress (Visveswarya, 1934; Nehru, 1946; Banerjee et al., 1944; Thakurdas et al. 1944; Agarwal, 1960), that anticipated most post-war debates and ideas on development objectives, strategy and policy in academia and international organizations. The plans saw poverty alleviation as the basic development objective, outlined a 'basic needs' strategy and covered 'redistribution with growth', the development of agriculture versus industry, heavy industry-based industrialization and import substitution, the respective roles of large- and small-scale industries and of the state versus the market (see Srinivasan, 2001).

The rise and fall of the planning syndrome

With the setting up of the Planning Commission in the 1950s India embarked on a public sector dominated by heavy industry and an import-substituting industrialization strategy as the answer to alleviate its ancient poverty. Professor P.C. Mahalanobis (1953; 1955), a distinguished statistician and the father of Indian planning, provided its rationale in a formal model, taken largely from the model that the Soviet economist Fel'dman had developed for Stalin's industrialization strategy. This showed that, with a binding foreign exchange constraint (which, on the basis of the export pessimism generated by the experience of the Great Depression, was assumed to confront India) independent of a savings constraint to limit the growth rate of the economy, a higher sustainable development path could be attained by using limited foreign exchange to import (and so support the industrial structure vertically) machines to make machines, until India was producing everything she needed, except for the raw materials that could not be obtained domestically (see Bhagwati and Chakravarty, 1969; Lal, 1972a).

The Perspective Planning Division of the Planning Commission, headed by its intellectually curious and energetic head, Pitamber Pant, and the branch of Mahalanobis' Indian Statistical Institute (ISI) attached to it, then became the centre of intense intellectual debate. In the 1960s it employed a growing number of Indian economists trained in Western universities (Bhagwati, Bardhan, Minhas, Parikh, Srinivasan, Tendulkar among others), and in association with a programme set up by Rosenstein Rodan at Massachusetts Institute of Technology (MIT) became host to a galaxy of foreign economists (Swan, Reddaway, Lewis, Little and Harberger). The Delhi School of Economics, under the leadership of K.N. Raj, engaged Chakravarty and Sen, and at the Finance Ministry I.G. Patel invigorated the newly established Indian Economic Service by engaging V.K. Ramaswami and Manmohan Singh as economic advisors. Meanwhile, the USAID mission was headed by J.P. Lewis, and the number of foreign economists visiting and participating in the economic debates of the time expanded to include Milton Friedman and Peter Bauer.

The Mahalanobis model was to form the analytical basis for India's second Five Year Plan. The Planning Commission had convened a panel of economists to discuss its framework, and most of them endorsed the broad objectives and strategy of the plan. The only dissenting voice was that of B.R. Shenoy, who questioned, amongst other issues, the massive deficit financing on which the plan depended. In this he was supported by two of the visiting foreign economists, Peter Bauer and Milton Friedman. Whilst Komiya (1959) and Bronfrenbrenner (1960) provided explicit critiques of the Mahalanobis model. But most of these criticisms were disregarded by the prevailing intellectual consensus in favour of dirigiste, state-led planning, though the technocratic basis of the planning models on which it was based was increasingly questioned by Indian economists (see Rudra, 1975).

With the emergence of what J.P. Lewis (1963) accurately described as a 'quiet crisis' in India, engendered by the foreign exchange crisis caused by the fiscal expansion the dissenters had predicted (which had led to draconian foreign trade-cum-exchange and price controls), new voices arose in the 1960s providing the intellectual basis for the subsequent neoclassical resurgence in development economics. Developing ideas presaged in the writings of James Meade and Harry Johnson, two Indian economists, Jagdish Bhagwati (who was at the ISI) and V.K. Ramaswami, economic advisor at the Ministry of Finance, produced a path-breaking paper that began the process of separating the case for free trade from that for laissez-faire (Bhagwati and Ramaswami, 1963). In a series of papers with T.N. Srinivasan (also at the ISI), they established the modern theory of trade and welfare which shows that most of the arguments for protection are second best as they depend upon 'domestic distortions' in the working of the price mechanism, which are best dealt with by direct domestic taxes and subsidies rather than the indirect method of protection.

Two major books, by Bhagwati and Desai (1970) and Bhagwati and Srinivasan (1975), written as part of two large-scale multi-country comparative studies of trade and industrialization directed by I.M.D. Little, T. Scitovsky and M. Fg. Scott for the Organization for Economic Cooperation and Development (OECD), and by J. Bhagwati and A. Krueger for the National Bureau of Economic Research (NBER), provided a detailed empirical analysis of the relevance of this newly developed theory, besides documenting the immense inefficiency and corruption that the dirigiste planning system had engendered. This marked the beginning of the end of the planning syndrome that had held Indian economists in thrall for nearly a century.

Furthering this disenchantment was the disappointing performance of Indian industry where the net effect of the control system was shown to be a capital-intensive bias and low or negative growth of total factor productivity in post-Independence industrial performance (I.J. Ahluwalia, 1985). Moreover, Manmohan Singh (1964), in a detailed study of Indian exports, had shown that the export pessimism underlying the assumption of a foreign-exchange constraint in the Mahalanobis model was unjustified, as it was not lack of external demand but the consequences of India's domestic economic policies that had led to the disappointing Indian export performance.

Nor was the panacea offered by the Gandhians – which was promulgated with reservations for various small-scale industries (particularly cotton textiles) on the grounds that they promoted employment growth – found to be valid. P.N. Dhar and H.F. Lydall (1961) in an empirical study of these industries showed that these small-scale industries were technically inefficient than their larger modern brethren because they used both more labour and capital per unit of output produced.

The planners' belief that the public sector, given monopoly production rights in the 'commanding heights' of the economy, would be dynamic and through rising profits augment domestic savings was discredited. Numerous official empirical studies documented the growing inefficiency of the public sector and its growing drain on the nation's savings. As part of the debate on their reform which came to the fore in the 1970s, two major manuals of project evaluation were developed to improve the efficiency of the public sector. One was produced for the UN's Industrial Development Organization by P. Dasgupta, A.K. Sen and S. Marglin the other for the OECD by I.M.D. Little and J.A. Mirrlees. With the implicit adoption of the latter by a newly set up Project Appraisal Division in the Planning Commission, Lal (1980) produced the first comprehensive set of 'shadow prices' based on the 'world price rule' for use in the evaluation of public projects in India. But the social cost–benefit analysis they were meant to support soon descended into social cosmetic analysis, as politicians continued to choose and run public projects for rent-seeking reasons rather than social profitability. It was not until the fiscal-cum-foreign exchange crisis of 1991 that planning, and the system of controls on industry and foreign trade it had engendered, finally came to a *de facto* if not *de jure* end. The market increasingly came to replace the plan, and a programme of privatization was slowly and fitfully begun.

Transforming agriculture

An implicit assumption of the Mahalanobis framework was that agriculture could be left alone, merely being a source of 'surplus labour' and of the limited savings and foreign exchange for the heavy industrialization strategy. By the mid-1960s this neglect had led to a severe food crisis. The transformation of agriculture, which until then had been seen largely as a means of promoting equity through land reforms, then became a matter of debate.

Nationalist and Marxist literature in India, basing itself on the perceived outcomes of the laissez-faire period of colonial rule, had maintained that the commercialization of agriculture through the creation, definition and enforcement of saleable and mortgageable land rights, and the integration of the internal economy through the railways had led to an increased concentration of land, the proletarianization of the peasantry and the growth of landless labour and a shift to cash crops from foodgrains, which in turn had led to famine. Subsequent research (summarized in Kumar and Desai, 1983, and Lal, 1988), has questioned the empirical bases of these beliefs, whilst Sen (1981a) has argued that the periodic famines that have blighted the subcontinent over the millennia were not due to a shortage of food but to 'exchange entitlement failures'. Whenever the monsoon failed there was a drastic fall in the demand for landless labour and thence wages, leading to a reduction in 'exchange entitlement' in terms of food, which in extremity would lead to a famine. The British had already realized this at the end of the 19th century, when they set up a famine code whereby, when the rains failed, local District Commissioners were empowered to fund food-for-work public works to provide the necessary exchange entitlements. As a result, apart from the 1944 famine in Bengal, which was caused by disruptive wartime conditions, India did not see serious famines in the 20th century.

One of the implicit assumptions underlying the neglect of agriculture in the early plans was that peasants were not subject to economic incentives. Detailed empirical studies by Dharm Narain (1965) and Raj Krishna (1963) of peasant response to the changing relative prices of crops shows that they behaved like *homo economicus* by shifting cropping patterns to crops with higher expected relative prices.

A second tenet (following the famous Arthur Lewis model of a dual economy) was the existence of vast pools of 'surplus labour' in agriculture which could be removed for industrialization without affecting agricultural output. Mehra (1966) provided empirical content by using farm management studies to estimate the surplus labour time available in various states in India. But these and other studies estimating surplus labour did not take account of the wage at which people are willing to work, or the leisure–income choice facing rural workers. They assumed that they would continue to work for an unchanged wage up to a normal number of working hours per day. But, as Sen (1966) showed, even in an overpopulated country, 'surplus labour' – in the sense of a perfectly elastic supply of labour at a constant wage – would imply that leisure was an inferior good. Empirical studies estimating wage elasticities for rural labour in India soon showed that this assumption was invalid (Bardhan, 1979; 1984a; Binswanger and Rosenzweig, 1984; Lal, 1989).

The means to transform Indian agriculture have not changed since the 1893 report by J. Volcker (1893), consultant chemist to the Royal Agricultural Society. His remedies were: irrigation, fertilizers, better seeds and improvements in land tenure. This has been the conventional wisdom on raising Indian agricultural productivity ever since.

An empirical finding from the Indian farm management studies that there was an inverse relationship between the size of farm and productivity per hectare (Sen, 1975, Appendix C) was used to argue for land reforms that would break up large farms and create small, family-labour based and family-owned peasant farms, which would promote both equity and efficiency (Rudra and Sen, 1980). However, Bhalla and Roy (1988) showed that, once appropriate adjustments were made for differences in land quality, the inverse relationship between farm size and productivity disappears. This undermined the case for land reform in India.

Lal (1988; 2005; 2006) argued that the Malthusian view that population pressure would lead to a stagnation of rural and industrial wages was invalid, as the alternative Boserupian perspective (Boserup, 1965) provided a better description of the changing fortunes of Indian agriculture. Boserup

argued that population pressure both induces and facilitates the adoption of more intensive forms of agriculture. She identifies the differing input-per-hectare requirements of different agrarian systems by the frequency with which a particular piece of land is cropped. Thus settled agriculture is more labour- and capital- intensive than nomadic pastoralism, which is in turn more intensive in these inputs than hunting and gathering or the slash-and-burn agriculture practised until recently in parts of Africa and the tribal regions of India. Contrary to Malthusian presumptions, population growth leads to the adoption of more advanced techniques that raise yield per acre. Because these new techniques require increased labour effort, they will not be adopted until rising population reduces the per capita food output that can be produced with existing techniques and forces a change. Lal marshals empirical evidence to show that Indian agriculture's long trajectory fits this Boserupian framework, with the population expansion beginning from the early 1900s leading in the post-Independence period to an intensification of agriculture, and with the availability of the new high-yielding varieties (HYV) of seeds, to the Green Revolution in the late 1960s and 1970s.
Many of those adhering to the Marxist canon believed and hoped that the bulk of the income gains arising from the massive increases in output brought about by the Green Revolution would accrue to landowners, and that rural real wages would stagnate, leading to the revolution turning red. But the evidence showed that with the massive shift in the labour-demand curve that resulted from the new technology there was a marked rise in rural real wages (Ahluwalia, 1978; Lal, 1976; 1989).
As the new HYV technology required an assured water supply along with high dosages of fertilizers, Volcker's other major means of transforming Indian agriculture, namely irrigation, came to the fore. Surface irrigation was expanded during the Raj (the period of British rule in India), particularly in the drier regions where the marginal social returns from irrigation were likely to be the highest. But these schemes were devised by engineers and their direct and indirect economic effects were not estimated, leading in many cases to long-term losses through salination, water-logging and the creation of malarial swamps (see Whitcomb, 1971). In the 1970s two studies of irrigation – of a major surface water scheme, the Bhakra dam, by Minhas, Parikh and Srinivasan (1972) and of groundwater (well) irrigation in the Deccan plateau by Lal (1972b) – provided economic analyses of irrigation and their optimal design.
One of the deleterious effects of the system of protection set up during the Permit Raj was the heavy implicit tax on agriculture. From 1965 efforts were made to correct this by price supports to farmers, which led to an improvement in the terms of trade. But this changed again in the 1980s with growing but inefficient input subsidies becoming the main form of supporting agriculture. With the post-1991 liberalization of trade largely affecting industrial products, part of the bias against agriculture was removed. The debate then moved to removing the remaining agricultural protection (particularly for cereals), with proponents (Gulati, 1998) arguing for domestic prices of agricultural products to be aligned with world prices to allow agriculture to develop in line with its revealed comparative advantage, and opponents (Patnaik, 1996) arguing against, on grounds of food security.

Poverty and income distribution

A continuing debate concerns the effects on income distribution and poverty of rapid capitalist growth. Indian economists have been in the forefront in both setting out the conceptual basis as well as the measurement of poverty (see Sen, 1976; Sen, 1981a; Sen, 1981b; Dandekar and Rath, 1971; Bardhan and Srinivasan, 1974; Srinivasan, 1983). The internationally adopted headcount ratio (HCR) of the poor below a nutritionally based poverty line of 15 rupees per capita (at 1960–1 prices) was based on this efflorescence of research in the 1970s (but see Sukhatme, 1978; Srinivasan and Bardhan, 1988). The continuing debate has centred on whether rapid (capitalist) growth would alleviate poverty without adverse effects on income distribution, or whether more direct methods of redistribution would be needed to alleviate poverty and prevent any worsening of income distribution. A summary of the evidence from these numerous studies based on two large national surveys undertaken by the official National Sample Survey and those undertaken by the unofficial National Council of Applied Economic Research (NCAER) is provided in Lal, Mohan and Natarajan (2001). There seems to be no clear trend in the Gini coefficient during the 50 years since Independence in 1947, whilst the fluctuating HCR for poverty shows no marked change until the acceleration of the growth rate after the economic liberalization of the 1990s, since when there has been a fall of varying magnitudes, depending upon which study one trusts.
The nationalist-cum-Marxist School unsurprisingly has argued that 'trickle down' would not alleviate poverty. Given the abysmally poor growth record during the planning period, which was characterized as the Hindu rate of growth (of about 1.5 per cent a year in per capita income from the 1950s to early 1980s) it would have been surprising if there had been any marked alleviation of India's mass structural poverty. Nevertheless, influential voices on the Left articulated a critique of the capitalist growth process. This critique, purportedly supported by Indian data, was soon shown to be false. Thus it was argued that the alleviation of poverty and equitable growth within the 'existing institutional framework' would not occur because of an increased concentration of land (Raj, 1976; refuted by Sanyal, 1977a; 1977b); the increasing proletarianization of the countryside (Raj, 1976; refuted by Visaria, 1977); increasing rural indebtedness and usury (disputed by Ghatak, 1976); a continual improvement in the agricultural terms of trade which damaged industrial development (Bagchi, 1970; Chakravarty, 1974; Sau, 1981; Vaidyanathan, 1977; and Mitra, 1977), which were critiqued by Desai, (1981); and the inimical effects of foreign investment (Sau, 1981) which is countered in Lal et al. (1975).
These are now seen as shibboleths, particularly after the death of the countries of 'really existing socialism' and the economic liberalizations of the 1990s. The intemperate debate this provoked between the left-wing radicals and neoclassical liberalizers showed up the ideological nature of this debate, with Rudra (1991) stating: 'I put my ideological cards on the table. I hate capitalism', and Srinivasan (1992) rightly responding: 'In Rudra's value system competition, without which the market economy cannot efficiently function, is an instrument with a negative value connotation. In this he would be in the good company of monopolists and oligopolists and state capitalists of the world who would also dearly love to eliminate competition!'
While growth is being increasingly accepted as necessary for the sustainable alleviation of mass structural poverty (see Tendulkar, 1998), Lal and Myint (1996) argue that two other forms of poverty, destitution and conjunctural poverty, require income transfers, though not necessarily public ones. Though Dasgupta (1993) claims to be about destitution, it is more about mass structural poverty and income distribution (Srinivasan, 1994). The only study of destitution (Lipton, 1983) based on village studies found no obvious correlates to identify an extremely heterogenous group. Thus Dasgupta's reasonable assertion that widows become destitute was belied by the evidence in Drèze and Srinivasan (1995).
Public policy has thus sought to deal with the third triad of poverty, conjunctural poverty, which is largely associated with climatic variations through a continuation of the Raj's famine code to prevent famine and by rural employment guarantee schemes to offset seasonal unemployment by offering jobs on public works at a wage only the needy will accept, which because of self-targeting have been shown to be efficacious (Ravallion, 1991).
The major advocate of the direct route for poverty alleviation (where the three categories distinguished above are amalgamated) remains Sen (1981), whose earlier empirical evidence on the superiority of this route in low-growth economies (Sri Lanka) and regions (Kerala in India) was questioned by Bhalla and Glewwe (1986). The debates in Drèze and Sen (1989) concentrate on the public provision of food for the malnourished and the merit goods of health and education. But empirical studies of the nearly 50-year-old public programmes to deal with these aspects do not provide much hope for success (Parikh, 1993; World Bank, 2000; PROBE, 1999). Similarly, the dismal state of publicly owned and operated infrastructure (Ahluwalia 1998; Ahluwalia and Little, 1998) has led to a search for decentralized private solutions to provide these 'public goods' with public funding (Mitra, 2006; Bardhan and Mookherjee, 2006).

Political economy and institutions

With the growing corruption engendered by the Permit Raj, there have been attempts to measure what Krueger (1974) has designated as the 'rent-seeking society'. Her attempts at measuring the rents created by the Permit Raj in India has been supplemented by other studies (see Acharya, 1985; Mohammad and Whalley, 1984), whilst her rent-seeking model has been expanded by Bhagwati and Srinivasan to encompass a whole host of what they term 'directly unproductive activities' (Bhagwati and Srinivasan, 1980).
A large political economy literature has arisen to explain the economic outcomes in India's democratic polity. Much of this has a Marxist lineage (Raj, 1973; Jha, 1980; Bardhan, 1984b). Lal (1984; 1988; 2005) on the other hand has developed a model of 'the predatory state' which maximizes net revenue and has argued that the successive empires in north India were predatory states that fell when they attempted to extract more than the natural 'rent' the economic system could provide. Lal (1987) and Lal and Myint (1996) also provide a theory which seeks to explain the role of crises in generating economic reforms in previously repressed economies. This is borne out by the liberalization undertaken in the face of a serious fiscal, foreign exchange and inflationary crisis in 1991 caused by the cumulative effects of the dirigisme of the Permit Raj.
There have also been attempts to explain various institutions that have shaped economic outcomes: the caste system (Lal, 1988; 2005) as a means of tying scarce labour down to abundant land, and a theory of interrelated factor markets which seeks to explain seemingly inefficient institutions like sharecropping, attached labour, and usurious interest rates as second-best adaptations to problems of risk and the uncertainty to which tropical agriculture is subject (Bardhan, 1980; Bardhan and Rudra, 1978; Srinivasan, Bell and Udry, 1997; Basu, 1983).

The macroeconomy

Post-Independence India followed an orthodox monetary policy based on the system of fiscal and monetary accounting left by the Raj. In the 1980s, however, in order to push up the growth rate it began to undertake risky macroeconomic policies, and, with the crisis of 1991, macroeconomic issues came to the fore. The best account of India's macroeconomy since Independence was provided by Joshi and Little (1994), whilst Bhagwati and Srinivasan (1993) and Virmani (2001) provide analyses of the genesis of the crises and the lineaments of the partial and still incomplete economic liberalization that occurred in the wake of the crisis.
With the opening of the economy and (by the standards of the planning era) large inflows of foreign capital, India faced the prospect of Dutch disease – with a rise in the real exchange rate reducing the profitability of tradable relative to non-traded goods. The authorities responded by sterilizing these inflows and building up large foreign-exchange reserves, thus stalling an appreciation of the nominal exchange rate, to maintain the competitiveness of Indian exports (which, after their post-Independence stagnation, in the 1990s began to take off with the gradual integration of India into the world economy). Because of the continuing large fiscal deficits, particularly of the states in the Indian federation (Lal, Bhide and Vasudevan, 2001), the government was also reluctant to open the capital account for fear of these deficits spilling over and causing another foreign debt crisis. A lively debate began in the early part of the 21st century on the correct monetary and exchange-rate policy for India to follow in the light of the continuing build-up in foreign exchange reserves. Lal, Bery and Pant (2003) argued for liberalizing the capital account and floating the rupee. Joshi and Sanyal (2004) demurred, arguing for capital account controls and a managed exchange rate, largely on grounds of exchange-rate protection. The debate is still ongoing as of 2007, and the government has reconstituted an official committee which in the late 1990s had cautioned on opening the capital account.
The economic debates in India have thus moved on to what are no longer distinctively Indian issues, and local contributions are now less likely to be ground-breaking or to deal uniquely with issues in the current debates on development in the subcontinent.

See Also

- agriculture and economic development
- development economics
- planning
- poverty
- poverty alleviation programmes

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