

# THE ENIGMA OF THE “INDIAN MODEL” OF DEVELOPMENT

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## **Abstract**

*The present chapter is an attempt to unveil the enigma of the “Indian model” of development. After discussing the evolution of India’s development policies over the last six decades, the paper attempts to unfold India’s development trajectory. It shows how, despite India’s lost opportunity to be a part of the Asian Miracle of the 1960s, 1970s and 1980s, the country finally emerged as a global player in the last couple of decades. However, the Indian model of development, principally driven by rapid expansion of high-end knowledge-intensive sectors, comes with a tragic neglect of low-end labour-intensive mass manufactures. From an agriculture-dominated economy, India straight away jumped to an economic structure, albeit with a transition period of three or four decades, in which services and high-end manufacturing assumed the lead role. This development model is not only inequitable in the extreme, but it is also a prescription for political volatility and is definitely not a sustainable development model, especially in a democracy.*

## **I. The context**

After a long journey of developmental struggle, negotiated through meticulous planning and policy initiatives spanning over nearly six decades, India finally emerged as a major player in the world economy and polity. India’s journey began as a newly independent poor underdeveloped nation in 1947, the year of its independence from the British rule. At that time, India was one of the poorest nations in the world in terms of per capita income, wealth and material capacity. However, it had an illustrious history of an ancient civilization dating back to 5000 BC, with periods of high prosperity and a rich cultural heritage, intellectual capacity and enlightened leadership.<sup>1</sup> With these assets, India embarked on its path of post-colonial economic development. The original architects of India’s development planning and policy were perhaps chasing a goal of bringing back India’s past glory to re-establish its lost position in the world after a prolonged (two centuries of) colonial rule. Over the next six decades, the trajectory of India’s development policies evolved through the ups and downs of its development performance.

India’s development experience has attracted significant attention in the economic development literature.<sup>2</sup> Much of this literature focuses on the failure of India’s initial approach of “State-directed” development with a strong inward-looking bias in its development strategy. It has been well demonstrated how India’s prolonged strategy of import substitution was followed by a paradigm shift towards a more liberalized open economy model of development in the 1990s. India’s successful emergence in the world economy has often been attributed to this liberalized trade and industrial policy regime. Essentially, the existing literature on India’s development experience analyses its economic performance in an attempt to link it with the broad theoretical contours of outward versus inward-looking industrialization and development.

However, we believe that this approach is too simplistic to understand the complexities of the so-called “Indian model” of development. Accordingly, the present paper has a very different

flavour: rather than focusing on the broad contours of overall development strategies, we argue that specific policy elements are formulated within such an overall strategy framework to achieve narrow and targeted goals of development. Each and every policy element may not necessarily be an integral component of a particular development strategy package, as theoretically understood in the development economics literature. While many of the policy elements might have played complementary roles in achieving desired developmental goals, some of the others might have been conflicting. Moreover, new policy elements have been added over time, while older ones have been modified and sometimes discarded. In this chapter, we consider India's quest for development as a composite of a multitude of policy initiatives addressing specific aspects of a multi-dimensional conceptualization of development. Indeed, this approach towards understanding India's development policies will also enable us to address a frequently raised yet less understood question:

Is there indeed an “Indian model” of development within such a diversity of policy initiatives? The present paper marks an attempt to unveil the enigma of this “Indian model” of development.

The chapter begins with a discussion of the evolution of development policymaking in India in section II. We demarcate the first couple of decades as a period during which policies were driven by ideology and idealism, followed by deeper penetration of self-reliance during 1970–1985. The second half of the 1980s was a period of policy ambivalence with sporadic reforms and opening up, while 1991 marked the beginning of a paradigm shift in India's policymaking. Section III presents India's development trajectory, showing how India finally emerged a global player in the last couple of decades, despite its lost opportunity to be a part of the Asian Miracle of the 1960s, 1970s and 1980s. Section IV highlights the foundations of India's success story and discusses its promises and pitfalls.

## II. Evolution of development policymaking in India

As already indicated, the conventional discourse presents India's development policy largely within the paradigm of inward- versus outward-looking strategies, dividing it into two distinct regimes – import substituting industrialization extending until the 1980s, followed by a paradigm shift in 1991 towards a liberalized trade and industrial policy regime. Here, we refrain from such a broad-brush depiction of India's development policy evolution. Accordingly, we demarcate four distinct phases of India's development policy, distinguished by their guiding philosophies and compulsions.

### A. *Policy planning driven by ideology: 1950s and 1960s*

India remained a virtually closed economy for nearly four decades after its independence in 1947, following an inward-looking development strategy. The key goal was to achieve *self-reliance* in all possible dimensions of economic activities of the nation. The immediate aspiration of independent India was perhaps to mimic the development trajectories of the “advanced” industrialized nations, albeit very much within the framework of import substitution

and self-reliance. It was perhaps important for Indian policymakers to signal to the rest of the world that India could do whatever the advanced nations could (Ray, 2006). Accordingly, a diversified industrial production base was meticulously planned out for India, ranging from simple consumer items to sophisticated capital goods and heavy machinery. This drive towards self-reliance also prompted India to engage in highly-complex and resource-intensive activities such as space research and nuclear technology. The notion of natural comparative advantage took a back seat in this planning process. This policy approach was perhaps a result of the hangover of the prolonged colonial rule that fostered a process of “drain of wealth” through tripartite and unequal trading relations dictated by the colonial rulers. This hangover was reinforced by the contemporary scholarship on *dependency theories*<sup>3</sup> pioneered by the Latin American School of thought, highlighting notions of elasticity pessimism and in-equalizing trade. All this led to deep cynicism about trade and openness among the founding fathers of India's development policy. Therefore, the goal was to achieve “self-reliance” by doing away with all elements of dependence on the western world. Indeed, the notion of *self-reliance* played a major role in defining the *norm*

of development in post-colonial India. However, the idea of *self-reliance* itself has gone through a metamorphosis in India’s development policy.

The architecture of India’s post-colonial development policy framework was inspired by the soviet model of development. Indeed, the foundations of India’s second Five Year Plan model (Mahalanobis, 1953) closely resembled Feldman’s (1964 [1928]) model developed in the Soviet Union in the 1920s, arguing for a larger share of investment in the capital goods sector, which may slow down growth in the short run but would result in a much higher growth rate in the long run, accompanied with higher levels of consumption. India’s first Prime Minister Jawaharlal Nehru, with his Cambridge exposure, had a strong faith in socialist ideals, which left a significant imprint on India’s post-colonial development model. If we consider the Nehruvian era, which extends probably until the mid-1960s, we note that socialist sentiments went a long way towards defining India’s own understanding of development, in terms of both its means and ends. Indeed, there are several pointers to substantiate this claim.

Soviet style *Central Economic Planning* was the cornerstone of India’s initial development strategy, aimed at a “socialistic pattern of development”. There was lack of faith in the market and the role of the State was emphatically highlighted. Although a mixed economy was envisaged, there was a clearly assigned role earmarked for the private sector, primarily restricted to the consumer goods segment, and even that was subject to pervasive regulatory control by the State. The public sector was expected to reach the “commanding heights” of the economy with clearly demarcated priority sector industries reserved for the public sector, progressively expanding its ambit during the Nehruvian era.

Trade received very little attention in the foundation of India’s post-colonial development strategy. India’s trade policy was characterized by pervasive import and exchange control, primarily relying on quantitative restrictions. From 1962 onwards, these restrictions were supplemented by the increasing use of import duties. There was initially a pessimistic neglect of exports, although the Third Plan (1961–1966) included some piecemeal and ad hoc attempts towards export promotion through export incentives (subsidies, fiscal incentives, and import entitlements). Of course, there was a temporary and short-lived trade-liberalization attempt during the devaluation of 1966, with

an announced goal of eliminating/rationalizing export subsidies and liberalizing import licensing and reduced import duties, albeit only to be followed by a reversal to the protectionist policy framework (Wolf, 1982).

Socialist ideals were also reflected in the deliberate policy attempts on several other fronts: (i) the reduction of monopoly and concentration of economic power; (ii) the promotion of a small-scale sector that generates income and livelihood for the common man through a policy of industrial reservation; (iii) ensuring balanced regional development through freight equalization policy to eliminate regional disparities in growth and development; and (iv) price controls aimed at ensuring the availability of certain “essential” (“crucial”) products at “reasonable” prices, namely fertilizer, cement, iron, steel and pharmaceuticals.

Another area that warrants special attention in India’s development policy during the Nehruvian era is its concerted focus on social sector policies, driven by the ideals of the so-called *Nehruvian Socialism*. The need for a proactive role of the Government in the provision of merit goods like health and education was clearly highlighted. An elaborate public health care system and infrastructure was envisaged and created during this period. Likewise, government-funded higher education and research, especially in the fields of science and technology, was emphasized with the creation of an elaborate network of public-funded colleges and universities, as well as other institutions of higher learning in sciences, technology and management.

### **B. Deeper penetration of self-reliance: 1970–1985**

The decade of the 1960s witnessed several changes in the global political economy scenario. Two neighbourhood conflicts (1962 China and 1965 Pakistan) exposed the ground realities of India’s limited military capabilities and the consequent vulnerabilities against global forces and alliances. Moreover, the acute food crisis of 1966 revealed India’s economic vulnerability vis-à-vis the United States, when it withdrew its food aid to India under public law 480.<sup>4</sup> This was followed by an acute currency crisis and a major devaluation of the rupee.

Despite being one of original founders of the non-aligned movement in a bipolar world, India

slowly started aligning with the Soviet Union, on both a strategic and economic front. There was urgency to rapidly march towards the goal of self-reliance, both economically and strategically. India's achievement of nuclear capability in 1974 was a clear step in this direction. This was also a period during which the private capitalists were emerging as a powerful class in India, as an outcome of its original vision of a mixed economy. This class had a vested interest in protecting their business from international competition and a policy of self-reliance and import substitution was in perfect harmony with their narrow interests. The policy of licence-raj had already created a rent-seeking vested interest among bureaucracy. Against this backdrop, India's development policy framework tilted towards deeper penetration of self-reliance in every sense of the term. However, the original policy goal, whereby the public sector was expected to reach the commanding heights of the economy, seemed to have been substantially diluted by now and the private capitalist class was being rolled out a larger space to operate. In the re-classification of the industrial sectors, greater access was accorded to private capitalists. The public sector was also mentioned, although it was no longer expected to reach the "commanding heights" of the economy.<sup>5</sup> Industrial licensing continued in full steam. There was an announced intention to relax licensing policies with a change in the political regime in 1977, although it never quite materialized and was promptly reversed in 1980.

This period also witnessed a passage of several legislative acts that have a direct bearing on India's development model. The Foreign Exchange Regulation Act (FERA) of 1973 was introduced to restrict and regulate the operations of foreign (multinational) companies in India to protect and develop indigenous industrial and technological capability. A 40 per cent ceiling was imposed on foreign equity share, with the exception of some "core" sectors like pharmaceuticals, where up to 74 per cent foreign equity was allowed to high technology bulk and formulation producers, with the proviso that 50 per cent of the bulk was supplied to non-associated formulators and the share of own bulk in their formulation should not exceed one fifth. The Monopolies and Restrictive Trade Practices Act of 1970 was enacted to ensure that industrialization did not result in the concentration of economic power in hands of a few rich. The Patent Act of 1970 was a radical departure from the earlier patent law inherited from the British period. This Act only granted process patent for

*chemical substances including pharmaceuticals*, reduced the duration of patents to seven years from the date of filing or five years from the date of sealing whichever is lower, excluded all imported substances from the domain of patent protection (i.e. only new substances manufactured in India were entitled to patent protection) and placed the burden of proof on the plaintiff in case of infringement.

All these acts introduced in the 1970s, in conjunction with several other policy initiatives towards the active promotion of indigenous technology creation and adoption, resulted in a policy framework that took the goal of *self-reliance* beyond mere manufacturing capabilities to technological *self-reliance*. Given the protectionist environment, considerations of costs and quality as per global standards were not considered to hold much relevance during this phase of India's development model.

Another important dimension of this deepening of *self-reliance* during this era was evident in India's strive towards attaining self-sufficiency in food grains production. India's *green* revolution was made possible through the Government's concerted effort and investment in agricultural research and extension services.

### **C. Policy ambivalence and sporadic reforms: 1985–1990**

The flipside of this protectionist policy regime soon revealed itself in the form of inefficiencies of various kinds. For one thing, there was no incentive to keep pace with the fast changing global technology frontier in many of the manufacturing sectors, which resulted in Indian industry becoming technologically backward and inefficient with respect to global standards of cost and quality. India's industrial sector was characterized by very high effective rates of protection and associated domestic resource costs. The concept of natural comparative advantage appeared to have taken a back seat in India's development trajectory. The country settled at a "Hindu" rate of growth of 2–3 per cent per year and was branded by development scholars as a growth laggard in the world (see e.g. Lal, 1988 and 1989).

From the mid-1980s, with Rajiv Gandhi taking over as prime minister with a young and dynamic appeal along with his team of technocrat advisers like Sam Pitroda, a technological view of development was

gaining momentum in India's development policy. It was realized that being able to produce everything could not be the end-all goal; rather, it is also very important to be able to do things "efficiently". This may require opening up the doors to the latest technological development on the global frontier, marking quite a departure from its earlier inward-looking policy regime. At the same time, global scholarship on development strategy was also undergoing a metamorphosis, fuelled by the trumpeting of the success of outward-oriented industrialization strategies adopted by East Asian economies. There was some serious re-thinking about India's development path among Indian scholars and policymakers, albeit with significant scepticism and hesitation.

In a sense, this marked the beginning of India's policy of liberalization. However, the policy response beginning in the mid-1980s was feeble and sporadic, given that it was limited to liberalizing particular aspects of the control system, without any major change affecting the system itself in any fundamental way. These attempts of liberalization have been arguably piecemeal and somewhat ad hoc without a comprehensive programme of reforms that some of the other inward-looking economies had already adopted (including China since 1978).

#### **D. Paradigm shift: 1991 onwards**

1991 marked a radical departure from the past, when, faced with an exceptionally severe balance of payments crisis, India launched a massive economic reforms package comprising short-term stabilization measures along with a longer-term programme of comprehensive structural reforms. Indeed, the reforms initiated in 1991 were much wider and deeper than earlier piecemeal attempts. It ushered in a complete paradigm shift in policymaking that now emphasized the liberalization of government controls, a larger role for the private sector as the engine of growth, freer operation of the market and competitive forces to boost efficiency, as well as greater integration with the world economy.

Interestingly, the *balance of payments* crisis of 1991 that precipitated India's massive economic reforms package coincided with the Uruguay Round of negotiations culminating in the establishment of the World Trade Organization (WTO), thus heralding the beginning of a new world order of globalization. Hence, a better perspective on the Indian reforms

process may be gained by viewing it against the backdrop of the evolution of the WTO-driven new world order, rather than regarding it merely as an isolated occurrence.

In terms of outcomes, the reforms process put in place a trade regime compatible with the diktats of the WTO over a period of time, with the removal of all quantitative restrictions on trade, reduction of tariff rates, market-aligned foreign exchange rates with full current account and limited capital account convertibility and a liberal, transparent, investor-friendly foreign direct investment policy in place. In the industrial sector, the reforms led to the virtual elimination of industrial licensing and de-reservation. The number of sectors reserved for small-scale enterprises was drastically reduced. Most significantly, the role of public sector was re-defined with the Stated objective of disinvesting and privatizing public sector units. Finally, the establishment of bodies like the Investment Commission and the National Manufacturing Competitiveness Council clearly highlight a major shift in the government's role from "control" to "regulation" as far as the industrial sector is concerned.

On the fiscal front, the *Fiscal Responsibility and Budget Management Act* was passed to achieve fiscal consolidation and stabilization. This act enjoined the central government to eliminate its fiscal and revenue deficits in a phased manner in the medium term. In another significant move, a uniform system of value-added tax was adopted and services sector (contributing to more than 50 per cent of GDP) was brought under the tax net in a comprehensive manner. Finally, subsidies on petroleum products were progressively dismantled by linking the domestic retail prices to international prices, which considerably reduced government expenditure on the petroleum account.

Financial sector reforms entailed the deregulation of the banking sector, which has significantly expanded the size of the sector in terms of the number of new private banks and branches, as well as enhanced the scale of operations, particularly in new businesses like merchant banking, mutual funds, etc. The *capital market* has also been liberalized with the gradual removal of controls on various transactions in the capital account. The Securities and Exchange Board of India was set up in 1995 to regulate the primary and secondary stock markets along with the stock exchanges and market intermediaries. The

*Insurance Regulatory and Development Act* was introduced in 1999, opening up the insurance sector to private participation.

Agriculture had received scant attention during the initial phases of India's economic reforms process, largely due to the absence of a political

consensus. Although such a consensus remains somewhat elusive, a growing realization regarding the urgency of removing various inefficiencies in the farming sector has resulted in the introduction of some reform measures, essentially in three areas: subsidies, procurement and the public distribution system.

### III. India's development trajectory

In this section, we attempt to portray India's development trajectory with the objective of unveiling the process of its emergence as a major player in the world economy. India had to wait for five long decades before it could make its presence felt in the world economy. Despite its rich heritage and endowment of intellectual and scientific capacities, India remained a poor underdeveloped nation with very low material capacity for more than half a century after independence. It is needless to mention that India had significant ideational influence on global politics and international relations during the Nehruvian era (1950s). However, over time, even this influence became eroded, perhaps due to its failure to match its global diplomatic presence with commensurate economic and/or military presence in the world. It is rather intriguing to note that much of labour-surplus Asia (East and South-East, in particular) forged ahead with economic prosperity from the 1960s and 1970s, despite starting from a much lower base compared to India. Over the last forty years, some of the economies in East and South-East Asia have grown at rates unprecedented in human history, whereas India remained stuck at low levels and growth rates of per capita income.

Popularly known as the Asian Miracle, this spectacular economic development and prosperity in Asia was not as an isolated, regional phenomenon; rather, it reflected an unfolding pattern of international specialization, integrating the labour surpluses of Asia into the mainstream of world trade. "Within [labour-surplus] East Asia, the development of different national economies followed an orderly sequence – the so-called "flying geese" pattern (Akamatsu, 1962). The initial leader Japan was followed by the Four Tigers (Korea, Taiwan, Hong Kong and Singapore), then by the three Cubs (Indonesia, Malaysia and Thailand) and finally by China and Vietnam. At each stage, rapid economic growth in the

current leaders [driven by labour-intensive manufactured exports produced a Stolper-Samuelson effect and] set off a wage-explosion. This drove labour-intensive industries out to the next tier of low-wage economies while the current leaders graduated to more sophisticated activities that were not however at the cutting edge of technology. The final destination of this migration of labour-intensive manufacturing was of course China. In part, this was due to its vast surplus of low-wage labour [generating a Lewis effect]." (Guha and Ray, 2004: 301).

Despite its bulging population, where was labour-surplus India in this Asian Miracle? Given its autarkic trade policy regime that created strong anti-export bias in the relative incentive structures (Bhagwati and Srinivasan, 1975; Wolf, 1982), India could never experience the Asian Miracle driven by rapid expansion of labour-intensive manufactured exports. However, if the inward-looking trade policy regime was indeed the only reason for India's inability to join the miraculous growth experience of its East Asian neighbours, one would naturally expect India, with its low labour costs, to surge ahead in flooding the global markets for labour-intensive mass manufactures after it opened up its trade in 1991. Nonetheless, this never happened. By the time that India's policy shift took place, competition in the global mass market in labour-intensive manufactures had intensified and India had already lost out in the race against the East and South-East Asia. This was perpetuated by India's obsolete industrial policies, and especially the policy of product reservation for small-scale enterprises. It was supposedly in the interests of equity and employment, which spectacularly succeeded in crippling the textile industry, the spearhead of labour-intensive export expansion in the rest of the developing world (Guha and Ray, 2004). Effectively, India almost voluntarily opted out of the world's mass market for traditional labour-intensive

goods; indeed, it was the conquest of this market that propelled China's boom of the 1990s.

However, this did not prevent India from charting out its own trajectory of emergence in the world economy that transgressed simple labour cost advantage. Fortunately, the advantage conferred by low labour costs is pervasive and extends well beyond the realm of traditional labour-intensive goods into new industries and services, like software, information technology (IT) and IT enabled services (ITES), biotechnology and pharmaceuticals, where knowledge inputs prove the key source of comparative advantage. India's opening up in the 1990s coincided with a new era, during which these knowledge-intensive sectors began to dominate the world economy. India's advantage in these activities arises from a strong university-educated middle class (translating labour abundance into skill abundance) and its public investment in science and technology science and technology (S&T) research. We must underline here the role of idealism and ideology in shaping India's development policy in the immediate post-independence era. The policy thrust on higher education and research, especially in S&T, has created a knowledge base, skilled labour force and S&T capacity that are well-equipped to capitalize on the IT and biotechnology booms.

Apart from knowledge, skills and S&T capacity, another key source of India's strength has been its knowledge of English language, inherited from its colonial past. This has proved an asset of incalculable value for India in an age of instant worldwide communication, essentially in the English language. Thus, while China continues to dominate the vast world market for traditional labour-intensive manufactures, new vistas have opened up for India, where knowledge resources – as opposed to simple labour abundance – prove the key source of comparative advantage.

Given that India's emergence has centred on a limited number of specific sectors, an obvious question that arises is whether (and to what extent) it has been ignited by sector-specific policies. We find quite a divergence among sectors in this regard. India's success in IT and ITES has largely been self-driven, taking off on its own in response to the new global economic opportunities created by an IT driven global production structure in a globalized world. Of course, India's advantages in terms of skilled (university-educated) manpower and English language naturally

led to the flourishing of IT and ITES in India, even without any specific government policies towards IT during the initial phases. It is interesting to note that the National Policy on Information Technology was only announced in 2011, long after the successful emergence of India's IT sector.

However, the story is somewhat different in the case of the pharmaceutical sector. Here, India created a unique policy space for itself that fostered the technological capability of the domestic pharmaceutical industry (Ray and Bhaduri, 2014). Carefully designed and targeted policy framework adopted in the 1970s helped this industry to become self-reliant, not only in manufacturing but also in technology, eventually competing successfully in global markets through technological capability. In the first two decades after independence, India's overall development strategy of import substituting industrialization – supplemented by an active role played by public sector enterprises – acted as the key driving force behind the growth and expansion of the pharmaceutical industry. However, the industry continued to remain largely dominated by foreign firms and drug prices were among the highest in the world (Kefauver Committee Report, 1961). Simply trade policy alone is perhaps inadequate to foster self-reliance, especially in a process-driven sector where learning and technological capability building has to be actively nurtured through complementary policy instruments, and particularly intellectual property rights (IPR). This policy reinforcement towards technological self-reliance started in the 1970s with the passage of several government directives directly shaping the growth path of this sector, including the Drug Price Control Orders of 1970 and 1979, the Foreign Exchange Regulation Act of 1973, the New Drug Policy of 1978 and, of course, the Patent Act of 1970. Within this favourable policy environment, the pharmaceutical industry in India embarked upon a new trajectory of technological learning and acquired substantial technological capability of process development through reverse engineering both infringing processes for off-patented molecules and non-infringing processes for patented molecules. Through the 1970s and 1980s, the Indian pharmaceutical industry reached new heights of process capabilities to "knock off" any new drug with a non-infringing process and market them at low prices. This phenomenon has often been referred to as the "process revolution" in the Indian pharmaceutical sector, whereby India was now poised to make a major dent in the global generics market (Ray, 2008).

The story of India's economic emergence, coupled with the diversity of its experiences in the IT and pharmaceutical sectors, makes it evident that the Indian model of development cannot be fully comprehended with a broad-brush analysis of its transition from an inward-looking policy regime to a more open and liberalized economic environment in line with the neoliberal traditions. We have analysed

how finer elements of development policies – ranging from higher education and S&T research to product reservations and IPR – have played a role in India's economic emergence in one way or another. In some cases, non-targeted general policy elements have produced desired results for specific sectors, while in others targeted and sector-specific policies have yielded positive sectoral outcomes.

#### IV. The Indian model of development – promises and pitfalls

As we have explained above, the Indian model of development, as it has unfolded in the last couple of decades, is based upon a foundation of knowledge resources. The importance of knowledge as a principal driving force behind economic growth and development is now well recognized, given that there are unlimited opportunities that can be tapped by nurturing and augmenting knowledge resources. Indeed, India has enormous potential and unprecedented opportunities to make effective use of its knowledge resources to enhance productivity in all fields and make a successful transition towards a knowledge economy.<sup>6</sup>

However, India's assets and advantages on this count (namely its educated workforce, technological capability and knowledge of English) are far from being permanent in character; rather, they can be replicated in other countries with some effort. Indeed, some of the other emerging economies like Brazil and China are quickly catching up with India in terms of these assets. More seriously, these assets created by India's colonial history and post-colonial policy effort can be irreparably damaged, if not destroyed, by unimaginative policy. For instance, the language policy (shunting English) adopted by some of the State governments as well as the union government (at times) or the lack of a consistent higher education policy to bring India to newer heights of intellectual achievements could prove serious impediments to nurturing these invaluable assets that have propelled India's economic emergence in the world.

The Indian model of development – principally driven by rapid expansion of *high-end* knowledge-intensive sectors (IT, biotech, business/knowledge process outsourcing and other similar services) – comes with a tragic neglect of *low-end* labour-intensive mass manufactures. Even with all

the rhetoric about India's high-end capabilities, one must confront a fundamental question: *how high is India's high end?* Ironically, India's high end is not quite so "high". Ray (2009) shows that although India has demonstrated significant competitive strength in routine (though skill intensive) tasks like coding (in software) or process development (in pharmaceuticals), it has been lacking creativity and innovativeness to reach the global frontiers of technological advancement. India is yet to make a mark in cutting-edge global technologies. For instance, it is noteworthy that despite India's global presence in the generic market and its declared effort to reach newer heights in pharmaceutical research and development (R&D), we are yet to see a *new chemical entity* (drug) from India hitting the global market. Effectively then, India cannot compete with advanced nations in the truly high-tech segments in terms of creating new technologies and ideas. While India has created a niche for itself in the so-called lower-end activities of the high-end sectors (like customized IT and ITES and generic medicines) requiring skills and technological capability that India has acquired, it is yet to reach the levels of the league of technologically advanced nations.

In the framework of the conventional structural transformation paradigm (Chenery and Syrquin, 1975), the Indian model of development seems to have skipped the middle phase of an expanding secondary sector, in which manufacturing is supposed to account for the lion's share of the GDP. From an agriculture-dominated economy, India straight away jumped to an economic structure, albeit with a transition period of three or four decades during which services assumed the lead role. However, in the process, India completely lost out to other emerging economies (mainly China) in the low-end segment of mass manufactures. At the same time, it has been

unable to compete with the technologically advanced nations in the truly high-tech segment.

India’s remarkable success in *lower-end activities* of the *high-end knowledge-intensive sectors* has undoubtedly created unprecedented opportunities for a limited segment (creamy layer) of the society, mainly for the English-speaking, college/university-educated urban elite. It might have also created incentives for upward mobility and opportunities for the less fortunate to ascend the social ladder and be absorbed in what has been described as the Great Indian Middle Class. Nonetheless, it can hardly be called a truly inclusive strategy of economic development. It emphasizes services performed by an educated middle class as the leading sector in growth, in the midst of an ocean of illiteracy and poverty. Of course, arguably the incomes generated in the leading high-end sector may eventually trickle down to the poor through increased demand for food and manufacture, although this is a process that raises the aspirations of the masses for a better life and then fulfils them – if at all – at an excruciatingly slow pace. It is not only inequitable in the extreme, but also a prescription for political volatility. This is surely not a sustainable development model, especially in a democracy. The political economy of neglecting the bottom quarter billion people, who lack health, nutrition, education and shelter, must be clearly understood.<sup>7</sup> We believe that it is simply unviable to sustain such a growth process in a democratic setup.

To employ the billion strong population productively, one cannot rely on a policy of picking winners and supporting a narrow set of sectors, whether capital-intensive import substitutes (as during the pre-1991 regime) or knowledge-based IT, pharmaceuticals, biotech, etc. (as pursued now). It

is essential to tap the potentials for labour-intensive “low-end” sectors (mass products) that create job opportunities for the masses. This cannot necessarily be achieved through counter-productive policies of reservation and prolonged protection, but rather through a proactive policy framework to resolve infrastructure deficits on the one hand and improve labour productivity through health, primary education and appropriate technology policy on the other.

The new global economic order that has emerged during the last couple of decades has ushered in a process of globalization that entails greater integration of the global economy, following the principles of *free trade* and *laissez-faire*. While opening up new and exciting opportunities for India’s economic growth and development in the 21<sup>st</sup> century, globalization has also posed serious challenges, especially regarding the social sectors. The architecture of this new world order, principally designed by the WTO agreement and supplemented by the prescriptions of *structural adjustment* offered to developing nations by the IMF/World Bank, has an immediate consequence of retreat of the State from active engagement in economic activities. Fiscal reforms initiated everywhere (India being no exception) have clearly mandated for public expenditure compression, whereby the soft targets for public expenditure compression – as always – happen to be the social sector allocations, in particular education, health and poverty reduction. This directly affects the poor in a material sense. It is somewhat ironic that while the primary threats of globalization in India are directed towards the underprivileged masses of its enormous population, it is this same pool of human resources – if properly nurtured – that will prove to be its greatest strength and source of opportunity to embrace globalization positively and productively to become a global economic power in every sense of the term.

## Notes

- 1 By 1947, India had already produced two Nobel laureates (CV Raman in Physics and Sir Rabindranath Tagore in Literature, who also happened to be the first to receive a Nobel prize in Literature outside the English speaking world), several civil servants, barristers, professors and scientists of global repute.
- 2 See, for instance, Bhagwati and Desai (1970), Bhagwati and Srinivasan (1975), Chakravarty (1987), Little and Joshi (1994), Ahluwalia and Little (1998), Panagariya (2008).
- 3 See, for instance, Prebisch (1950).
- 4 The Agricultural Trade Development and Assistance Act of 1954, commonly known as public law 480, allowed the Government of the United States to export surplus agricultural commodities (food) to “friendly” nations, on concessional or grant terms. The initial objective was to eliminate agricultural surpluses of the United States, but later it became a foreign policy instrument of the country when it

- was re-energized as a Food for Peace programme by Kennedy.
- 5 This may appear somewhat ironic, given that India's political alignment with the Soviet Union was becoming stronger in this period, while private capitalists were also becoming increasingly influential.
  - 6 A knowledge economy is one that creates, disseminates and uses knowledge to enhance its growth and development. See Dahlman and Utz (2005).
  - 7 This figure is based upon a conservative estimate of the poverty line. A more liberal poverty line at US\$2 a day PPP will inflate this number substantially.

## References

- Ahluwalia IJ and Little IMD, eds. (1998). *India's Economic Reforms and Development: Essays for Manmohan Shingh*. Delhi, Oxford University Press.
- Akamatsu K (1962). A historical pattern of economic growth in developing countries. *The Developing Economies*, 1(s1): 3–25.
- Bhagwati JN and Desai P (1970). *India: Planning for Industrialization: Industrialization and Trade Policies since 1951*. London, Oxford University Press.
- Bhagwati JN and Srinivasan TN (1975). *Foreign Trade Regimes and Economic Development: India*. New York, NY, Columbia University Press.
- Chakravarty S (1987). *Development Planning: The Indian Experience*. Oxford, Clarendon Press.
- Chenery HB and Syrquin M (1975). *Patterns of Development, 1950–1970*. New York, NY, Oxford University Press.
- Dahlman CJ and Utz A (2005). *India and the Knowledge Economy: Leveraging Strengths and Opportunities*. Washington, DC, World Bank.
- Feldman GA (1964) [1928]. On the theory of growth rates of national income. In: Spulber N, ed. *Foundations of Soviet Strategy for Economic Growth: Selected Soviet Essays, 1924–1930* (translated version). Bloomington, IN, Indiana University Press.
- Guha A and Ray AS (2004). India and Asia in the world economy: The role of human capital and technology. *International Studies*, 41(3): 299–311.
- Kefauver Committee Report (1961). *Study of Administered Prices in the Drug Industry*. Washington, DC, United States Government Printing Office.
- Lal D (1988, 1989). *The Hindu Equilibrium, Vols. I and II*. Oxford, Oxford University Press.
- Little IMD and Joshi V (1994). *India: Macroeconomics and Political Economy 1964–1991*. Delhi, Oxford University Press.
- Mahalanobis PC (1953). Some observations on the process of growth of national income. *Sankhya: The Indian Journal of Statistics*, 12(4): 307–312.
- Panagariya A (2008). *India: The Emerging Giant*. Oxford, Oxford University Press.
- Prebisch R (1950). *The Economic Development of Latin America and Its Principal Problems*. Lake Success, NY, United Nations Economic Commission for Latin America.
- Ray AS and Bhaduri S (2014). India's Pharmaceutical Industry: Policy Space that Fosters Technological Capability. In: Drache D and Jacobs LA, eds. *Linking Global Trade and Human Rights: New Policy Space in Hard Economic Times*. New York, NY, Cambridge University Press.
- Ray AS (2006). India's economic reforms: Opportunities, challenges and political economy perspectives. In: White L, ed. *Is there an Economic Orthodoxy? Growth and Reform in Africa, Asia and Latin America*. Johannesburg, South African Institute of International Affairs.
- Ray AS (2008). Learning and innovation in the Indian pharmaceutical industry: The role of IPR and other policy interventions. *RECIIS Electronic Journal of Communication, Information and Innovation in Health (Brazil)*, 2(2): 71–77.
- Ray AS (2009). Emerging through technological capability: An overview of India's technological trajectory. In: M Agarwal, ed. *India's Economic Future: Education, Technology, Energy and Environment*. New Delhi, Social Science Press: 40–70.
- Wolf MH (1982). *India's Exports*. New York, NY, Oxford University Press.