Micro-foundations of Inclusive Growth

2
CHAPTER

There have been few fiscal years in India's history in which the outlooks at the start and the end have been as different as in the present one. In April 2009, India seemed to be mired in an economic slowdown that had begun over a year ago in the industrialized nations and had engulfed the entire world. During the two preceding quarters India had clocked an annualized growth rate of 5.8 per cent, which was much below the near-9 per cent that the nation had continuously achieved for five years. It appeared that while we were a little late in joining the global recession we were now firmly in it. A variety of stimulus packages were put in place in the second half of 2008-09, in the Interim Budget 2009-2010 and, again, three months later, in the main Budget 2009-2010. By the second quarter the economy showed signs of turning; and now, close to the end of the year, India seems to be rapidly returning to the buoyant years preceding 2008. As always with any economy, there are risks. The drought-hit agricultural sector is not yet back to normal performance. The risk of a second-dip recession in the industrialized nations continues to cast a shadow on our nascent recovery. Nevertheless, at the year's end, it is good to see India having averted a recession and come out of the slowdown faster than pundits predicted in April 2009; and an analysis of various statistical trends that gird the economy suggests that the nation's medium- and long-term prognosis is excellent. If we can put into effect some important structural policy measures, there is no reason why India cannot achieve double-digit gross domestic product (GDP) growth and a rapid diminution of poverty.

2.2 Detailed analyses of the performance of various sectors of the Indian economy and sector-specific policy options, and especially those pertaining to our immediate concerns, are conducted in the chapters that follow. The aim of this chapter is to go beyond these short-term and sector-specific concerns to broader questions of policymaking in India and, at the same time, to focus on the relatively neglected subject of the micro-foundations of macroeconomic policy. In the rush to attend to the immediate imperatives of policy, some of the foundational questions, for instance those pertaining to individual incentives to perform better, which have significant long-run implications for the Indian economy, are often neglected. Policy changes which are important but not so in any specific year run the risk of not being implemented in any year. The aim of this chapter is to make amends for this by deliberately thinking outside the box and taking an analytical look at the base of policymaking in India. Some of the policy alternatives discussed here are for debate and discourse, rather than immediate implementation. The hope is that this will lead to important practical ideas for India's sustained development and inclusive growth and that some of them may enable us to create a road map for actual medium- and long-term policies.

Development and Distribution

2.3 In recent times India has grown fast not only compared to its own past but also in comparison

Table 2.1 : Ranks of 109 nations, by PPP-corrected GDP per capita

Rank	1975	1984	1994	2004
58	Paraguay	Dominican Rep.	Dominican Rep.	China
75	Grenadines	Honduras	Zimbabwe	India
77	Ghana	Sri Lanka	China	Georgia
80	Mauritania	Solomon Islands	India	Papua New Guinea
89	Solomon Islands	India	Georgia	Bangladesh
90	India	Rwanda	Senegal	Solomon Islands
96	Bangladesh	China	Congo,Dem.Rep.	Burkina Faso
108	China	Nigeria	Rwanda	Malawi

Source: Computation based on World Bank data.

Legend : The Table shows the ranks of 109 nations for which purchasing power parity (PPP)-corrected income data were available from 1975. In 1975 India was the 90th poorest nation, among these 109 nations. Over the 19-year period illustrated here, India steadily improved its rank. It was 75th poorest by 2004. The one nation that outstrips this performance is China, moving up from 108th rank to 58th, crossing over India somewhere between 1984 and 1994.

with other nations (see Table 2.1). But there cannot be any room for complacency because it is possible for the Indian economy to develop even faster and also to spread the benefits of this growth more widely than has been done thus far. Before going into details of the kinds of micro-structural changes that we need to conceptualize and then proceed to implement, it is worthwhile elaborating on the idea of inclusive growth that constitutes the defining concept behind this Government's various economic policies and decisions. A nation interested in *inclusive* growth views the same growth differently depending on whether the gains of the growth are heaped primarily on a small segment or shared widely by the population. The latter is cause for celebration but not the former. In other words, growth must not be treated as an end in itself but as an instrument for spreading prosperity to all. India's own past experience and the experience of other nations suggests that growth is necessary for eradicating poverty but it is not a sufficient condition. In other words, policies for promoting growth need to be complemented with policies to ensure that more and more people join in the growth process and, further, that there are mechanisms in place to redistribute some of the gains to those who are unable to partake in the market process and, hence, get left behind.

2.4 A simple way of giving this idea of inclusive growth a sharper form is to measure a nation's progress in terms of the progress of its poorest segment, for instance the bottom 20 per cent of the population. One could measure the per capita income of the bottom quintile of the population and also calculate the growth rate of its income; and evaluate our economic success in terms of these measures that pertain to the poorest segment. This approach is attractive because it does not ignore growth like some of the older heterodox criteria did. It simply looks at the growth of income of the poorest sections of the population. It also ensures that those who are outside of the bottom quintile do not get ignored. If that were done, then those people would in all likelihood drop down into the bottom quintile and so would automatically become a direct target of our policies. Hence the criterion being suggested here is a statistical summing up of the idea of inclusive growth. The policy discussions that follow do not explicitly refer to this but are inspired by this idea of inclusive growth, which, in turn, leads to two corollaries, to wit that India must strive to achieve high growth and that we must work to ensure that the weakest segments benefit from the growth.

2.5 For achieving inclusive growth there is critical need to rethink the role of the state. The early debate among economists about the size of the Government can be misleading. The need of the hour is to have an *enabling* Government. India is too large and complex a nation for the state to be able to deliver all that is needed. Asking the Government to produce all the essential goods, create all the necessary jobs, and keep a curb on the prices of all goods is to, at best, court failure, and, in greater likelihood, lead to a large, cumbersome bureaucracy and widespread corruption. The aim must be to stay with the objective of inclusive growth that was laid down by the founding fathers of the nation, but to take a more modern view of what the state can realistically deliver. This is what leads to the idea of an enabling state, that is, a Government that does not try to directly deliver to the citizens everything that they need. Instead, it (1) creates an enabling ethos for the market so that individual enterprise can flourish and citizens can, for the most part, provide for the needs of one another, and (2) steps in to help those who do not manage to do well for themselves, for there will always be individuals, no matter what the system, who need support and help. Hence we need a Government that, when it comes to the market, sets effective, incentive-compatible rules and remains on the sidelines with minimal interference, and, at the same time, plays an important role in directly helping the poor by ensuring that they get basic education and health services and receive adequate nutrition and food. This rollback of the Government in the former will enable it to devote more energy and resources to and be more effective in the latter. This changing view of the state will briefly be elaborated upon and then some detailed policy suggestions taken up.

Box 2.1 : Growth, poverty and the quintile income

India's growth performance over the last couple of decades or so has been a subject of a great deal of scholarly enquiry, as well as a cause for celebration. A measured optimism, in this regard, would be understandable--but a spillover into unbridled euphoria would not. The case against complacence resides in the large magnitudes of both poverty and inequality which coexist with growth. A natural question that arises is: is there a simple summary statistic that might throw some light, all at once, on the phenomena of growth, inequality, poverty, and inclusion? In a broad and suggestive way, yes: the statistic in question is the "quintile income", or average income, of the poorest 20 per cent of population.

What can we say about the performance of the quintile consumption expenditure level in India? Based on data in various rounds of the National Sample Survey (NSS) on the distribution of consumption expenditure, and employing the Consumer Price Index of Agricultural Labourers (CPIAL) as a price deflator, the table below presents information on quinquennial trends in real average per capita consumption expenditure and real quintile expenditure. The vastly lower consumption of the bottom quintile is evident from this.

From eyeballing the data it is evident that, in comparison with one's own consumption, the poorest quintile has done better than the average person in the economy. But the qualifier, "in comparison with one's own income," gives the bottom quintile a natural advantage since you have to give them less for them to have as high a *percentage* gain as the rich. One way of correcting this is to define a "neutral" growth regime as one in which every quintile group gets the same share of the increase in aggregate income. Treating 1977-78 and 2004-05 as the base year and the terminal year respectively, it can be checked using the table below that the poorest quintile gets less than the 0.2 per cent of the aggregate increase in income which is its neutral growth share. This simple arithmetic exercise shows that, while the bottom quintile in India has seen good growth using the benchmark of its own starting income, it has had a smaller share of the aggregate growth accrue to it.

Some statistics on mean and quintile monthly consumer expenditure for rural India

	1977-78	1983	1987-88	1993-94	1999-2000	2004-05
Per Capita Average Consumption Expenditure (at 1977-78 Prices, in Rs)	68.89	71.17	78.27	77.95	84.55	90.35
Quintile Consumption Expenditure (at 1977-78 Prices, in Rs)	29.14	31.43	35.91	37.29	42.79	44.91

Source: S. Subramanian, "A Practical Proposal for Simplifying the Measurement of Income Poverty", in K. Basu and R. Kanbur (eds): ***Arguments for a Better World: Essays in Honour of Amartya Sen, Volume 1: Ethics, Welfare, and Measurement*****. Oxford University Press: Clarendon, 2009.**

Note : The price index employed is the CPIAL. The base year is taken to be 1977-78.

2.6 In many poor nations the Government takes the stance that, when in doubt about the goodness or badness of two or more adults voluntarily conducting an exchange, stop them. An enabling state, on the contrary, takes the view that, when in doubt, do not interfere. There are, of course, many actions of individuals and groups that will need to be stopped for the welfare of society at large. But the default option of an enabling state is to allow rather than stop, to permit instead of prevent. This altered conception of the state can have dramatic effect on the functioning of an economy, in general by promoting greater efficiency and higher productivity. A concrete example can help clarify this. One repeated question that comes up in policy discussions concerns futures trade. Should we allow traders to strike advance deals about buying and selling wheat or rice or pulses in the future? Since for vital goods like these, a natural concern of every Government is to adopt policies that do not lead to inflationary pressures, our policy stance on futures markets depends on what we expect them to do to the spot prices. In other words, it depends on our view of what the existence of futures markets does to the level of prices in today's market. An enabling Government takes the view that if we cannot establish a connection between the existence of futures trading and inflation in spot prices, we should allow futures trade. This is in contrast to what an intrusive Government tends to do. In the event of finding no firm connection between the two markets, it takes the stance that it will not give individuals the freedom to conduct futures trade. In fact, it is true that the theoretical literature maintains a somewhat ambivalent position on this. While allowing futures trade does take us towards a more complete market system, it is not true that allowing each additional market always leads to greater efficiency. However, the converse of these claims is not true either. What is being argued here is that, under these circumstances, Government should, ideally, desist from imposing an outright ban on futures trade and, instead, provide it with a regulatory structure to promote transparency and to discourage collusion.

The Challenge of Poverty

2.7 The ultimate test of our policies has to be in terms of their success in curbing poverty. Unfortunately, on poverty India has some distance to go. The recent Expert Group Report (also known as the Tendulkar Report), commissioned by the Planning Commission, estimates India's aggregate poverty to be 37.2 per cent. That is, a little over 37 per cent of our population lives below the poverty line, and, in particular, 41.8 per cent of the rural population and 25.7 per cent of the urban population is poor. It is, however, worth clarifying that the higher poverty estimates that Tendulkar reports, compared to existing estimates of the Planning Commission based on NSS data, do not reflect an increase in poverty, but merely a changed definition of what constitutes poverty. As calculations in a later chapter show, if we use the Tendulkar method to calculate poverty in earlier years those rates go up as well compared to standard estimates based on NSS data. Nevertheless, whether we take India's poverty rate to be 37.2 per cent or 27.5 per cent (as is implied by the 61st round of NSS data of 2004-05), it is easy to argue that it is too high for a nation growing as rapidly as India, and that special initiatives are needed to combat it.

2.8 Over the last five years the Government has undertaken a large increase in budgetary allocations for anti-poverty programmes. In fact, one of the features of India's stimulus package that distinguishes it from stimulus packages in many other nations is that the injection of demand has taken the form, largely, of enhancing the buying power of the poor and promoting social services. The share of Central Government expenditure on social services, including rural development, in total expenditure, Plan and non-Plan, was 10.46 per cent in 2003-04 and rose to 19.46 per cent in 2009-10. The subsequent firming up of the prices of food items consumed by the poor is testimony to the fact that some of this near doubling of social and welfare-related expenditures must have reached the poor and bolstered their incomes.

2.9 There are also numerous product-based subsidies, such as the ones given to fertilizer production and use, basic foodgrains, diesel and kerosene, which have been accumulated over the years with the ostensible purpose of helping the weaker sections of the population, be they merely consumers or farmers trying to eke out a living from their little land. The impact of these subsidies, using the yardstick of poverty mitigation, is, however, questionable. On the other hand, the steady build up of these numbers now constitutes a major fiscal burden and tends to crowd out the government's ability to finance other vital activities in the economy that could promote productivity and eradicate poverty. Take, for instance, the fertilizer subsidy. The prices of fertilizers have been constant since 2002, which means that in real terms the price has declined. Since firms have to be compensated enough for them to remain in production, the gap between what the producers are paid and what farmers have to pay to buy fertilizers has steadily risen. As a consequence, the total subsidy that the Central Government gives to the fertilizer sector reached Rs 76,606 crore in 2008-09 and though this is expected to be lower this fiscal year, it remains large.

2.10 The main challenge is to direct the money already allocated to help eradicate poverty. The inability to do so has more to do with ideas than vested interests. Some propositions are obvious as soon as one gives them some thought; but not obvious when one gives them a lot of thought. These are the ones prone to policy mistakes. And once a policy is put into effect and kept in place for a while, vested interests gather in its favour and those interests resist change. But beyond that it is a question of having a road map of where we can go and demonstrating to the larger public that it is a potential beneficiary of the proposed change. Fortunately such a road map is feasible. There are systems of delivery of subsidies to the poor that can be vastly more effective, entail substantial savings and involve no extra organizational cost. In discussing these, it is useful to keep a few principles in mind. For goods that are important for the poor, it is only correct that the state should intervene to cushion the poor. The standard way to do this is by using some kind of a subsidy. However, a common mistake is to suppose that a subsidy scheme has to be coupled with price control. This is typically a slippery slope. In a large and complex economy, it is difficult for the state to gauge what the right price of a good is. Moreover, once the Government becomes involved in setting the price of a commodity, this becomes a matter of politics and lobbying, which cumulatively adds to the distortion. Hence prices are best left to the market. If we want to ensure that poor consumers are not exposed to the vagaries of the market, the best way to intervene is to help the poor *directly* instead of trying to control prices, which almost invariably does more harm than good in the long run, and often even not so long a run. On agriculture-sector policy and price control there is need to go the way India did with industry in 1991. Keeping this in mind, it is possible to outline systems of supporting the poor which are more efficient and better targeted than the present ones.

2.11 Through a vast network of public distribution system (PDS) outlets across the nation, we try to deliver some minimal supplies of heavily subsidized grain to our below poverty line (BPL) households and also some to our above poverty line (APL) households. The PDS stores are first given this subsidized grain and then instructed to deliver it at below market price to these specified households. It is believed many of these store-keepers (i) sell off this subsidized grain on the open market, and (ii) then adulterate the remaining grain and sell the diluted product to the BPL and APL households, who have no choice in the matter. We may harangue about the dishonesty of PDS store-keepers and all those entrusted with delivering the subsidies. It is indeed true that personal integrity, honesty and trustworthiness in the citizenry are vital ingredients for a nation's economic progress—there is enough cross-country evidence of this. But when crafting policy, there is need to be realistic about the system within which we work. To assume that all those entrusted with the task of administering the programme will do so flawlessly and then to blame them when the system fails, is not the mark of a good policy strategist. For effective policy, what is needed is to take people to be the way they are and then craft incentive-compatible interventions.

2.12 This paragraph outlines an altered system that, once in place, will be no more costly to run than the existing one and is likely to be much more effective. The plan suggested here is not novel and has been suggested on occasion by Indian policymakers and even in Budget documents. However, it has never been fully spelled out. The two planks of this system are (i) the subsidy should be handed over directly to the households, instead of giving it to the PDS store-keeper in the form of cheap grain and then have him deliver it to the needy households and

(ii) the household should be given the freedom to choose which store it buys the food from. Suppose the BPL household gets a net subsidy of Rs x for wheat each month. Instead of giving this by charging the household less than the market price for wheat, it should be given coupons worth Rs x, which can be used at PDS stores in lieu of money when buying wheat. Under this new system no grain will be given at a subsidized rate to the PDS stores and they will be free to charge the market price when selling grain irrespective of who the customer is. The only change is that the PDS stores are now allowed to accept these coupons which they can then take to the local bank and change to money, and the banks, in turn, can go to the government and have them changed to money. Further, households that get these coupons should be allowed to go to any PDS store of their choice.

2.13 Such a system will be more impervious to corruption. Since the store owner will get the same price for grain from all buyers, poor and rich, he will have no incentive, to turn the poor buyers away, as happens currently, and cater to those buying at market price. (If it is felt that changing coupons to money is a bother, we can have a provision for paying store owners an extra 2 per cent when they change coupons to money.) Second, since BPL buyers can go to any store with their coupons, they will be able to boycott stores that try to sell them poor-quality grain or mix gravel with the grain.

2.14 For the full success of this "coupons system" what is needed is an effective method of identifying the poor. This is where the Unique Identification (UID) System, an initiative already launched by the present Government, under the Unique Identification Authority of India (UIDAI) (see Box 2.2) comes into play. Since the UID System will come into effect in 2012 and the roster of individuals registered in it will gradually move towards completion, it is possible to plan on a switch to a coupons system by 2012 and also let it achieve full maturity as the UID registration moves to completion. Since the Unique Identification will not, in itself, have information on people's poverty status, these kinds of tailoring of information will need to be added on to the UID System. Further, since households do move in and out of BPL status there has to be provision for updating on information. However, it is not necessary to wait for the entire UID System to be in place to begin the switch to the coupons system. This is because even our current method of rations relies on ration shops having with them lists of BPL customers whom they are meant to serve. So some identification of BPL citizens is already available and this can be used to hand over coupons to these individuals. In the final measure, to keep the scheme lean and simple and also to maximize choice, we should not give individuals separate coupons for rice and wheat but a certain value of coupons that can be used to buy rice *or* wheat—the break-up between the two will be each individual's decision, depending on her preference. Eventually, there will be no need to have separate PDS outlets. Food will be available on the open market and poor people will get a monthly ration of coupons which they can take anywhere and buy food.

Box 2.2 : UID System

The UID System is envisioned as a means for residents to easily establish their identity, anywhere in the country. It will be an important step towards ensuring that residents in India can access the resources and benefits they are entitled to. The resident will be able to enrol for a UID number by providing basic demographic as well as biometric details (which may include photograph, fingerprints and iris scan) to the enrolling agency. The enrolling agency will transmit these details to a central UID server. The server will then perform a de-duplication check using the resident's key demographic and biometric fields against existing UID records in the database, to ensure that she does not already have a UID number. Once the check confirms that a duplicate record does not exist, the central system will issue a UID number to the resident. The resident can then use the number with different service providers, who can verify his or her identity online. The agency has to transmit the UID number and information provided by the resident to the UID server, and the server immediately responds with a yes or a no.

The UID can have a significant impact on service delivery. The existing patchwork of multiple agency databases in India gives individuals the incentive to provide different personal information to different agencies and also impersonate someone else. In the UID infrastructure, all resident records are stored in a central database, and each new entry is de-duplicated--consequently, residents can only have one UID number, which is mobile and can be used anywhere in the country. The lack of duplicates, and accuracy and mobility in identity verification, would reduce opportunities for fraud and enable agencies across the country to provide residents with targeted, effective services and benefits.

Source : UIDAI, Planning Commission.

2.15 This new coupons system has one risk that one must be prepared for. In the event of a national food shortage, since the BPL individuals will have coupons to help them out of the problem, for non-BPL individuals the shortage will be more acute. The state will in such situations have to import or use whatever other means available to release foodgrains on the market to balance the amount taken away by the recipients of coupons. This is not a serious problem of the coupons system because, at one level, the current system encounters the same problem. Since the BPL consumers are somewhat shielded through food rations, during shortages the crisis gets more acute for non-BPL consumers. Under the current system the corrective measure of food release takes place automatically, since the BPL population receives not coupons but actual grain. Hence, even while the present system for targeting subsidies is being reformed, there is need to continue with the strategy of holding buffer stocks of essential foodgrains and releasing them in times of shortage. This is elaborated upon in a subsequent section.

Subsidies and Development

2.16 Similar ideas can be carried over to other products. The Expert Group on A Viable and Sustainable System of Pricing of Petroleum Products (also known as the Kirit Parikh Committee) has made similar proposals for subsidies on petroleum and related products. Another candidate for this kind of analysis is fertilizer subsidy, which has grown over the years into a large burden on the budget. Yet, somewhat like with other subsidies, these reach the target population, namely farmers and especially small farmers, in a trickle, with enormous leakages on the way. Farmers have also complained that what they get is frequently of poor quality, and the pricing and availability is such that they end up using less suitable fertilizers in larger quantities. In addition, differently from the case of food, since the subsidy is given across the board for fertilizers produced, all those who buy fertilizers, whether or not they are poor and need the subsidies, get them. If this system can be improved, it is arguable that by spending even half the money that is currently spent on subsidies, we can be much more effective in helping poor farmers; and, further, by improving quality, increase agricultural productivity across the nation, with beneficial multiplier effects spreading to all sectors. And the saved money can be used to retire a part of the fiscal deficit or directed to other use.

2.17 This problem of fertilizer quality was part of the Finance Minister's Budget Speech on July 6, 2009: "In the context of the nation's food security, the declining response of agricultural productivity to increased fertilizer usage is a matter of great concern." The Budget then proposed making the much needed move towards a nutrient-based subsidy regime. It further noted: "In due course it is also intended to move to a system of direct transfer of subsidy to the farmers." The idea of giving subsidies via coupons, in the same way as discussed above for food, merely takes the idea of "direct transfer of subsidy to the farmers" to its natural conclusion. Again, to jump to what the final design will be, the idea is that Government will have no dealing with fertilizer producers. Any firm will be free to produce any kind of fertilizer and sell it in the market at any price. The farmers, on the other hand, by whatever selection criterion that is decided upon, will be given coupons that can be used to buy fertilizers on the open market. Any seller of fertilizers who receives these coupons will be free to encash them at any bank and the bank, in turn, can give these coupons to the Government and collect cash.

2.18 A switchover to a coupons system for fertilizer subsidies will entail several ancillary decisions. There will be need to decide who gets these coupons. One option is to give a fixed quota of these to every farming household. This will mean giving a subsidy to all farmers but for small farmers the subsidy will be a larger fraction of their farming needs whereas for large farmers this will turn out to be a smaller fraction. A more sophisticated approach is to give larger amounts to farmers with larger land. And yet another approach is to take a page out of the idea behind progressive income taxation and not give any coupons to large farmers. Whatever system is adopted, we will need some form of identification of farmers and will need to have some information about their landholdings. This once again means that for the full-fledged adoption of the coupons system, there will be need to dovetail it to our UID System. If we are to move towards this, we should in fact work in tandem with the UID work so that some information that we will need alongside a person's pure identity, such as whether or not the person belongs to a BPL household, whether her profession is agriculture and, if so, the amount of land she owns and so on can be fed into the system from the start. We may be able to save on some duplication of effort if we begin early in building such an information system.

2.19 This system can easily be tweaked to ensure that we discourage the use of fertilizers that may be harmful for the soil in the long run or have negative externalities for neighbouring farms. All we have to do is to have different coupons for different kinds of fertilizers and vary the amount of subsidy for different fertilizers to keep individual incentives in line with long-run social objectives.

2.20 Moreover, it may be desirable to not impose any restrictions on farmers selling off the coupons. If the recipient of a coupon decides that she does not want to buy fertilizers but would rather spend the money on buying a television set instead, we have every right to have misgivings about this preference, but it is not a good idea to use the state's enforcement machinery to correct this. Modern behavioural economics reminds us that there are situations where individuals act against their own interests because of lack of self-control or inconsistencies in their inter-temporal preferences, and so some paternalistic interventions can be good for them. While this is true, Government action to redirect individual choice ought to be measured and minimal. To try to meddle excessively in individuals' preferences is a mistake because it encourages Government to reach out to doing more than it realistically can, creating unnecessary bureaucratic hurdles and breeding corruption.

2.21 The benefits of this coupons system can be very large. With many producers engaged in supplying fertilizers and buyers having the freedom to shop from anybody, the largest cause of sub-standard fertilizer production will be cut out. We would see a large improvement in the quality of fertilizers and, with it, in overall agricultural productivity. In the present system Government has to do elaborate calculations about the costs that firms incur in producing fertilizers, with firms trying to inflate these costs. Under the new system, there will be no need for this, since the Government will not be paying anything to (or fixing the price of fertilizers produced by) the firms. The switchover to this organizationally leaner and directly targeted system means that even if the state substantially cuts back on the total size of the subsidy, say by Rs 20,000 crore, we should still see farmers getting more benefits than they currently do and agricultural productivity in the nation rising.

Bureaucratic Costs and Delays

2.22 India has one advantage over most emerging economies and even some industrialized ones–its vibrant democratic institutions and independent judiciary. This has greatly helped India gradually take its place among the leading global economies of the world. While this has helped the nation, there is another feature that has been a hindrance–India's high bureaucratic delays. Thanks to recent data collection from around the world on bureaucratic transactions costs, there are now hard statistics on

Table 2.2 : Doing business : Cross-country experience

Sl. No.	Country	Ease of doing business (rank)	How many days to start a business (days)	Days to enforce a contract (days)	Time to close a business (years)	Days to export
1	Brazil	129	120	616	4.0	12
2	Chile	49	27	480	4.5	21
3	China	89	37	406	1.7	21
4	**India**	**133**	**30**	**1,420**	**7.0**	**17**
5	Indonesia	122	60	570	5.5	21
6	Japan	15	23	360	0.6	10
7	Malaysia	23	11	585	2.3	18
8	Mexico	51	13	415	1.8	14
9	Pakistan	85	20	976	2.8	22
10	Russian Fed.	120	30	281	3.8	36
11	Singapore	1	3	150	0.8	5
12	Sri Lanka	105	38	1,318	1.7	21
13	Thailand	12	32	479	2.7	14
14	USA	4	6	300	1.5	6

Source : World Bank, Doing Business 2010.

Table 2.3 : Doing business in India - Comparison among major cities/capitals

Sl. No.	Places in India	Ease of doing business (rank)	How many days to start a business (days)	Days to enforce a contract (days)	Time to close a business (years)	Days to export
1	**Ludhiana**	**1**	**33**	**862**	**7.3**	**21**
2	Hyderabad	2	33	770	7	26
3	Bhubaneshwar	3	37	735	7.5	17
4	Gurgaon	4	33	1,163	7	25
5	Ahmedabad	5	35	1,295	6.8	17
6	New Delhi	6	32	900	7	25
7	Jaipur	7	31	1,033	9.1	22
8	Guwahati	8	38	600	8.3	22
9	Ranchi	9	38	985	8.5	21
10	Mumbai	10	30	1,420	7	17
11	Indore	11	32	990	8	21
12	Noida	12	30	970	8.7	25
13	Bengaluru	13	40	1,058	7.3	25
14	Patna	14	37	792	9.3	19
15	Chennai	15	34	877	7.5	25
16	Kochi	16	41	705	7.5	28
17	Kolkata	17	36	1,183	10.8	20

Source : World Bank, Doing Business in India 2009.

where India stands. In terms of the ease of doing business, India ranks 133rd in the world. Singapore ranks 1st, Malaysia 23rd, and China 89th. The number of days it takes in India to enforce a contract is 1,420. It can no longer be argued that this is inevitable given the complexity of contracts because it takes 150 days for the same in Singapore, 300 days in the US and 406 days in China (see Table 2.2 and Table 2.3 for comparative data on 17 Indian cities). Likewise, for the time taken to close a business that has gone bankrupt. This takes 9 months in Singapore, 18 months in the US, 20 months in China and 7 years in India.

2.23 If one were to look at this from a brighter angle, India's unpardonably large bureaucratic costs are like a valuable resource buried under the ground, waiting to be excavated and used. Cutting down these costs is like unearthing a free, valuable resource that was lying idle. It can release large energies in the nation and boost productivity and growth. Ironically, this can be India's gold rush.

2.24 This problem is at times put down to the size of India's bureaucracy. But that is not right. A complex economy such as that of India's does need substantial numbers to regulate and run it. By comparison with even some vibrant market economies, the actual number of people running the Indian Government is not large (see Box 2.3 for illustration in the context of India's tax administration). Further, there is a lot of talent in the Indian bureaucracy, since the selection process is highly competitive. The problem lies elsewhere, in our conception of the state, to wit that it has to directly deliver on every front and not be content with an enabling role; and also in the rules, regulations and procedures inherited from our colonial times, and made more cumbersome with layers of further procedures and regulations added like on a palimpsest. The situation is like a traffic jam–asking each person to move is useless advice. The need is to reform the *system*. If the current system of subsidies can be reformed, this itself will release a lot of human resource that is presently tied up in the pointless complexities of running an inefficient system. Also the changes in the tax system—the Goods and Services Tax and the Direct Tax Code—that are being contemplated can have substantial impact on not just improving the efficiency of the taxes but on simplifying the *procedures* for paying taxes.

2.25 The export sector is a good example of some of the principles discussed above. India has steadily

Box 2.3 : Higher revenue from reforms in income tax administration

Low income tax compliance is known to limit the capacity of Governments in developing countries to raise revenue for developmental purposes. Many factors have been acknowledged as contributing to this problem, such as the large informal sector, weak legal system, ambiguity in tax laws, inadequate information and accounting system, and corruption. In rectifying this problem it is important to be realistic and separate out what can be changed in the short run and what cannot. Experience from around the world shows that reforming certain aspects of the tax administration–such as increasing the number of audit officers and their supporting staff and altering procedures for grouping taxpayers into assessment units–can be implementable options for reforming the tax system for generating higher revenues for the Government.

Interestingly, a detailed econometric study shows that, in India, significant compliance gains would accrue from expanded employment. With regard to increased support staff in circles, both own and cross revenue effects turn out to be statistically positive and significant. Further, issues such as taxpayers strategically selecting into wards or circles, variation in support staff or enforcement effort generating spillover effects on workload and compliance in related units may be considered for change to increase the efficacy of tax collection. Hence the problem is not of the size of bureaucracy. If anything, there is scope for growth. The need is for administrative reform so that the resource of bureaucratic personnel can be used more effectively in promoting individual initiative.

Research results show that consideration should be given to removing the ward/circle distinction, replacing it with random assignment rules. This will remove the strategic underfiling incentive, with beneficial compliance effects. Revenue gains may be achieved by reallocating support staff from wards to circles, where they can be more productive. Penalty and prosecution effort appears to have significant effect on compliance (though here one has to be cautious not to encourage corrupt officials to misuse the system). Encouraging efforts to improve the quality of information available to assessing officers and including measures of penalty effort in their performance evaluation will also be helpful in reforming the tax administration.

Source : Arindam Das-Gupta, Dilip Mukherjee and Shanto Ghosh: "Tax Administration, Reform and Taxpayer Compliance in India" , *International Tax and Public Finance*, vol. 11, pp. 575-600.

done better over the years. The groundwork for this was laid over a long time. In the Budget Speech of 1983, for instance, the need for "basic reforms in the international financial and trading system" was stressed. India is today in a position to see another expansion in exports. To achieve this quickly it will be useful for Government to undertake some coordinated policy actions, but there is one critical action that can single-handedly give India's exports sector a boost. This is to do with governance and may be illustrated with the example of textiles and clothing. The aggregate global textile and clothing exports happen to be large. In the year 2008, these were worth $ 612 billion. China alone exported $185 billion worth of textiles and clothing that year, which constituted 30.3 per cent of the global value. In the same year, India exported textiles worth $21 billion, which was a paltry 3.5 per cent of global exports. Vietnam, a much smaller country than ours, had an export of $10.6 billon. Moreover, Vietnam's share of global trade has been growing by leaps and bounds. In the year 2000 it had a share of 0.6 per cent, whereas it now has a 1.7 per cent share. In the year 2000, India had a share of 3.2 per cent, which rose to 3.5 per cent by 2006 and has remained at the same level since. The phasing out of the quota system in 2005 does not appear to have helped Indian exports. Given the abundance of cheap labour, aiming to double our share of global exports in three years is not an impossible target.

2.26 There are many factors behind India's sub-par performance, despite its natural comparative advantages (see Box 2.4). Our ports take long to clear and, because they are not well-equipped, often products have to travel by feeder ships to be transferred to larger vessels at other major ports, leading to delays. It, therefore, takes an unduly long time for garments and apparel to travel from our factory gates to stores in industrialized nations where they are to be retailed. Since timing is the heart of success for these fashion-sensitive industries, much can be achieved by bettering performance in this dimension. India has recently begun some welcome intiatives to attract foreign direct investment (FDI) in the textile and clothing sector. This can help modernize this industry and aid its integration into the global textile market. Apart from being labour-intensive, this sector also happens to be one that employs a large number of women labourers and labourers belonging to minority and disadvantaged groups.

Box 2.4 : Delays in infrastructure projects

A recent study, based on comprehensive data from the Ministry of Statistics and Programme Implementation, of 894 projects completed during April 1992 and March 2009, provides information about the extent and nature of delays in India's infrastructure projects and insights into the causes. First of all, delays are ubiquitous. The percentage of projects with positive time overruns goes from 60.75 per cent in the power sector (the star performer), through 79.67 per cent in the petroleum sector, 95.08 per cent in shipping and ports and 98.36 per cent in railways, to a well-rounded 100 per cent in health and family welfare. Further, most of these time overruns are accompanied by cost overruns. On the plus side, since the 1980s the propensity towards cost overruns has come down steadily and time overruns have come down marginally. In terms of region, the southern states—Andhra Pradesh, Karnataka, Kerala and Tamil Nadu—have fewer delays and smaller cost overruns.

Among the causes of delay in completing these infrastructural projects and the cost overruns, the study identifies administrative delays by government departments, which, in turn, is caused by the hierarchical organizational structure of decision making in government. By way of policy prescription it is suggested that speeding up be effected at the stages of project approval, awarding of contracts and implementation. It is pointed out that incomplete contracts are a major cause of cost overruns.

Source : Ram Singh, 'Delays and Cost Overruns in Infrastructure Projects: An Enquiry into Extents, Causes and Remedies,' Working Paper No. 181, Centre for Development Economics, Delhi School of Economics.

2.27 Boosting our textile and clothing exports would, therefore, amount to an anti-poverty programme and a pro-employment programme rolled into one. India's textile and clothing sector currently employs 35 million people and is, after agriculture, the second largest provider of employment. Unlike agriculture, which has a natural tendency to shrink in terms of share of GDP as the economy grows, there is no such secular trend that has been observed for clothing and textiles around the world. Hence this can potentially be a major absorber of low-skilled labour and give a much-needed boost to our organized manufacturing sector.

Labour Regulation, Wages and Employment

2.28 Almost all international studies conclude that India's labour regulatory structure does not have the flexibility commensurate with a buoyant, growing economy. For firms in the organized sector having more than a certain critical number of labourers it is extremely hard to retrench workers or downsize the labour force. At first sight this looks like a pro-labour legislation, one that protects the interests of workers. On the other hand, it can be argued that most potential firms are far-sighted enough to realize that, once they become sufficiently large in terms of employment, if they later need to retrench workers because the demand for their product slacks off, they will not be able to do so easily. This is likely to prompt them to remain small or not go into business at all, since all laws also play an expressionist role whereby they affect behaviour beyond the actual ambit of the law. Hence it is arguable that our labour laws, such as the Industrial Dispute Act of 1947, if appropriately reformed, can lead to a greater demand for labour, and through that improve economic well-being of workers.

2.29 As a counter argument to this it has been suggested that, since most of these laws apply to the organized sector and India's organized sector is miniscule, changes in this law are likely to have negligible effect one way or the other. However, it can be argued that the causality goes the other way around. India's organized sector would grow if, in keeping with the times, we could amend the labour regulatory system, which would also influence the culture and custom of the labour market and encourage employment in the organized sector.

2.30 There are two different ways in which workers can gain power. One is through the conferring of rights to them and the other is by creating market conditions that result in greater demand for labour and thereby increase the ability of workers to ask for more and realistically expect the demands to be satisfied. In India, while there has been appreciation of the former, justice has not been done to the latter. The need is to bring these laws into the public space for open discussion and the weighing of the available scientific evidence, and then take decisions based on what emerges from such an exercise.

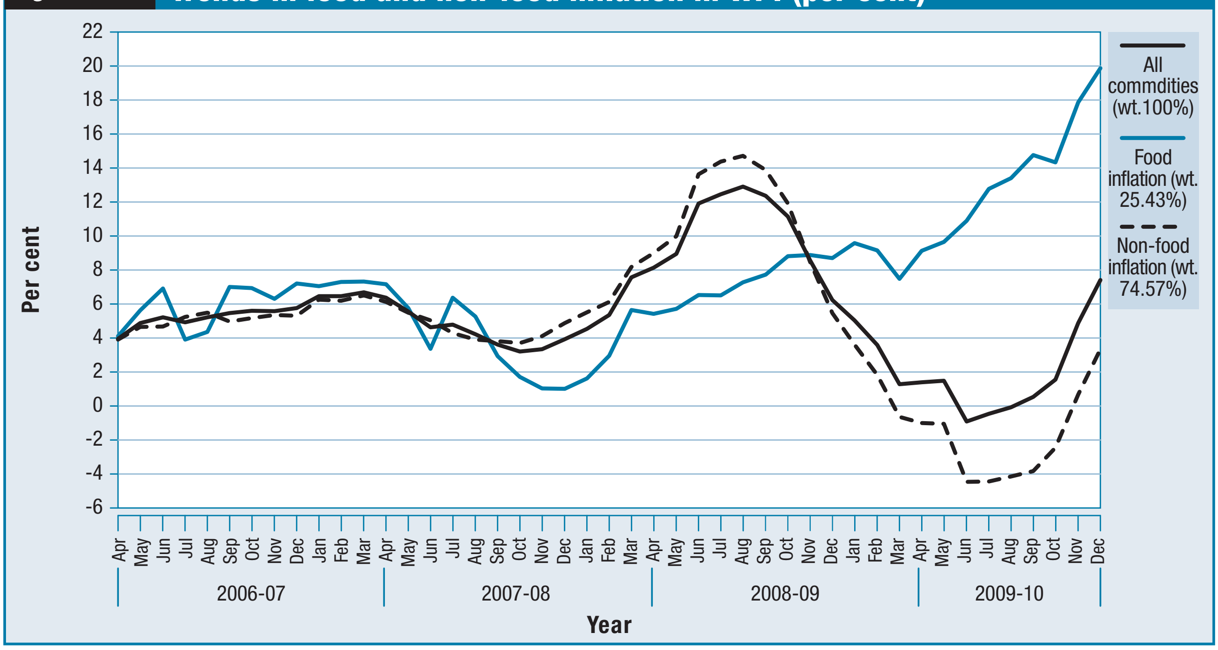
A Family of Inflations and Food-sector Interventions

2.31 The fiscal year 2009-10 has been a time of inflationary concerns. It was a year of a somewhat unusual inflation. While food inflation soared, inflation in the non-food sector was negligible. The Government was concerned that the upward pressure on prices should not escalate to all sectors. And, at least till January, the experience has been that of a highly skewed food-sector inflation. The weekly food-price inflation on a year-on-year calculation reached a maximum of 19.95 per cent for the week ending December 5, 2009. Since then the pressure has eased off a little. The skewedness of inflation that has been observed—some sectors are facing huge inflation, some no inflation and some deflation—is rather rare in the country's history. For instance, in 1973-74 food inflation was 22.7 per cent and non-food 36.4 per cent, in 1980-81 food inflation was 11.4 per cent and non-food 11.9 per cent, in 1986-87 food inflation was 10.2 per cent and non-food 11.4 per cent, in 1991-92 food inflation was 20.2 per cent and non-food 18.0 per cent, and there are several other years where the pattern was the same. The current inflation is of a different kind. It stands out for its lopsidedness across sectors. In 2009-10 (April-November), food inflation was 12.6 per cent and non-food inflation *minus* 0.4 per cent. If we look at India's inflation history from 1971, this kind of inflation, where food inflation is above 10 per cent and non-food inflation is negative, has happened only twice before–in 1992-93 and 1996-97. And food inflation of over 10 per cent, non-food inflation negative and fuel, power, light and lubricant (FPL&L) inflation less than 10 per cent has never occurred.

2.32 This experience points to the need for developing a new system of nomenclature for inflations. What was occurring from the middle of last year to now (and is so nicely visible in Figure 2.1 in which the different graphs literally fan out from early 2009) is best described as "skewflation", which, while not the most aesthetic of terms, captures the concept of lopsided inflation well. There is actually a need for creating some new terminology and concepts to differentiate between different kinds of inflation, since each type may require a different policy prescription. In most industrialized nations nowadays there is a practice of separating out "core inflation" and overall inflation. Core inflation refers to inflation in sectors other than food and fuels, in the belief that these are areas where prices often fluctuate because of sector-specific causes and one should not want to jump to economy-wide demand management measures to counter these sector-specific price fluctuations.

2.33 India faced this same dilemma in December 2009 when our core inflation remained negligible while food inflation was large. One silver lining of such skewflations is that, unless one injects excessive demand into the economy through lax monetary policy, they do not last long. After each of the two previous episodes of skewflation, the food price

Figure 2.1 Trends in food and non-food inflation in WPI (per cent)



inflation came down rapidly. On the other hand, regular, balanced inflation tends to be more long-lasting. The most famous one in India's history, starting in 1972, saw three consecutive years of double-digit, food price inflation. Sustained inflations were also observed starting in 1980 and 1991. These all began as generalized, across-the-board inflation. The primary cause of the recent food-price inflation was the severe drought of 2009, which caused a downturn in food production in the third quarter of 2009-10 and the expectation of the resultant price rise itself fed further into the inflation. Government reacted carefully by easing up imports of relevant foodgrains and sugar and also releasing wheat and rice from the stocks held by the Food Corporation onto the market.

2.34 Interestingly, this problem has led to some rethinking of the strategy of foodgrain procurement and release. In general, while India has been effective in procuring foodgrains, mainly wheat and rice, its strategy of food release has scope for improvement. Fortunately, there is a lot of research in economics that can help Government device better policy. The standard method that we have used is to have a minimum support price (MSP) for wheat and another one for rice, and the state commits to buying whatever amount the farmers are willing to sell at these prices. The idea is that, in years of high production, the Government's granaries will stock up, as indeed they do. Then, in years of low food production, when prices begin to rise, the Government will release this food onto the market to dampen the price rise. It is, however, easy to fall into two fault-lines in devising this release strategy.

2.35 First, as any reasonable authority would, the Government has stipulated norms for how much buffer stocks of foodgrains the Food Corporation of India (FCI) should hold. Thus there are pre-specified “buffer norms” and “strategic reserves”. However, if the Government becomes too steadfast in making sure that these norms will never be violated, they cease to play any role. In other words, if there are certain minimal amounts of grain that we are committed to holding at all times, then it is the same as not holding them. The traders and speculators realize this and so cease to worry about the dampening effect that the stocks could have on prices. In short, the FCI needs to make it amply clear that there are situations where it will offload all stocks, if need be, and violate the buffer norms. An inviolable buffer norm is indistinguishable from no buffer norm.

2.36 The second problem pertains to the “how” of releasing the grains that we decide to release. Suppose the Government has decided to release 10,000 tonnes of wheat on the market in some state and does it by forming batches of 1,000 tonnes (as it often does in reality) and offloading each batch through some form of open market sales, such as setting a reserve price and asking for tenders. There will in such a case be 10 persons or firms that will buy up the grain. Now consider the alternative of releasing the same total grain in much smaller batches to traders and millers or directly to retail consumers. The price impact of these two kinds of releases will be vastly different. The former creates an oligopoly, whereas the latter creates a competitive market by giving little amounts of grain to lots of people, and the downward pressure on prices in this latter case will be much greater. This use of standard industrial organization theory (Box 2.5 elaborates on this) can costlessly improve the efficacy of the FCI.

2.37 In January 2010 Government began using some of these kinds of interventions to improve its foodgrains release strategy. The decision was taken to release foodgrains in multiple locations in small quantities, at prices substantially below the market price. The effect of this action was soon evident on the market prices. On January 29, 2010, the Reserve Bank of India (RBI), also took some steps to mop up some excess liquidity from the market by announcing an increase in the cash reserve ratio (CRR) by 75 basis points. Given that food inflation is beginning to go down and there is slight increase in non-food inflation, this was a useful signal. Since it was coupled with substantial increase in the growth estimate for 2009-10 (which brings the RBI estimate virtually in line with the forecast that the Ministry of Finance made some time ago) this staved off any adverse reaction from the market.

2.38 The need now is to put together a standing plan, a kind of Standard Operating Procedure (SOP), for the kinds of actions that the state ought to take in the event of a skewed price rise in the food sector. An SOP will enable the FCI and other Government organizations to go into action as soon as the inflationary situation in food crosses a threshold, in particular, when the food price inflation is high and the gap between food and non-food price inflations goes above a certain critical level. Some of

Box 2.5 : The economics of foodgrain procurement and release

The supply curve of wheat will be high in years of bounty and low in years of drought. If it follows that in years of bounty the price of wheat will be low, p_L, and in years of drought it will be high, p_H. The purpose of a procurement policy is to even out some of this price fluctuation without having to necessarily rely on food imports from other nations. So what the government does is to set an MSP somewhere above p_L and buy up all the excess supply at that price. It follows, if the Government does this and then does not release the food thus procured, it will be contributing to a rise in prices on average because now in years of bounty the price will be MSP and in years of drought the price will be p_H. To counter this, Government needs a policy of releasing food in years of food shortage.

This is where the tricky problem of how the grains are released comes up. If they are released in large batches to a few traders or millers, the market structure that gets created is that of an oligopoly with a competitive fringe. Fortunately, the theory for this is well understood and this can be used to design effective interventions. At each price take the demand for wheat and subtract from this the supply of wheat that comes from the price-taking sellers. By doing this at each price we are left with what may be thought of as the "residual demand curve" for wheat. This is the demand curve that the oligopolistic sellers who buy the large releases of the Government come into play. They buy up wheat from the Government and then release it on this residual market. It can be shown that, if the number of oligopolists is small, the market price for wheat will be high and, moreover, not all the wheat on offer by the Government will be picked up by the sellers. Hence the Government's problem is not just deciding how much wheat to release but in how many batches, since this will determine how many oligopolists are brought into the market. The larger this number, the lower will be the price.

There is another corollary problem. At what price should the government release the grain? Earlier a somewhat mechanical accounting rule was used, which was to take the MSP price at which the wheat had been acquired and add to this the costs of freight and storage so as to ensure that the whole operation yielded an accounting profit. However, this method at times led to a price very close to the market price and, on some occasions, higher than the market price. Of course, that would mean no buyers for the grain and so no impact on the market price. This was corrected in January when it was decided that the release price must not be pegged to the historical purchase price and other costs but be released at a price substantially below the market price. There is, however, a risk that if the price is too low, it may be worthwhile for sellers to buy up what is on offer and sell it back to the Government at the MSP. If the release price is set below the anticipated MSP, this is bound to happen. But even if this is set slightly above the MSP, it may be worthwhile for large traders and millers to buy it up and sell it back at MSP. This operation will of course cause them a small loss but evacuating the wheat from the market could raise its price sufficiently for this to be worthwhile.

Reference : Avinash Dixit and Nick Stern "Oligopoly and Welfare: A Unified Presentation with Applications to Trade and Development", ***European Economic Review*****, vol. 13, 1982.**

the specificities of the intervention can be modified on each occasion through special orders of the relevant empowered group but there ought to be a minimal standing order.

Social Norms, Culture and Development

2.39 Hard-nosed Government documents usually make no mention of the role of social norms and culture in promoting development and economic efficiency. However, there is now a growing body of literature that demonstrates how certain social norms and cultural practices are vital ingredients for economic efficiency and growth. Groups and societies that are known to be honest and trustworthy tend to do better than societies that do not have this reputation. There have been broad cross-country studies and also laboratory experiments with the "trust game" that illustrate this. More generally, what is being argued is that a nation's success depends of course on its resources, human capital and economic policies, for instance fiscal and monetary policies, but also on the cultural and social norms that permeate society. We go through life striking hundreds and thousands of minor contracts and deals. You give a person money one day and the understanding is that that person will repair your plumbing the next day or it can be the other way around (the person repairs your plumbing today and expects you to pay him the following day); you supply garments to a store and the store then pays you for it; someone gives you a hair-cut and, after that, you pay her. It is difficult to have such minor contracts enforced by a third party or some formal legal/bureaucratic machinery. If we try to do it that way, as we have on occasion in India, the result will be a cumbersome bureaucracy that is anyway unable to deliver. Societies that are endowed with personal integrity and trustworthiness have the natural advantage that no third party is required to enforce contracts. For outsiders the mere knowledge that a particular society is trustworthy is reason to do more business and trade with it.

2.40 One reason why these "social" causes of development do not get enough recognition in the literature on economic policy is that the science of *how* these economics-friendly social qualities are acquired is not yet fully understood. Fortunately, the new discipline of behavioural economics is beginning to give us some insights into the formation of customs and behaviour. It is, for instance, known that buildings and office spaces which are cleaner and aesthetically better maintained result in individuals being more honest and desisting from corrupt activity. It is almost as if we have a mental inclination not to defile a good ambience through acts of corruption. New York city's notorious high crime was controlled, among other things, by cleaning up the city and removing graffiti from the walls. New York's police department took a decision to deter vandalism and graffiti that scar public spaces. This act of making the cityscape more aesthetic somehow made potential criminals less prone to crime. One sees casual evidence of this in the behaviour of Delhites using the metro. It has been widely noted that people behave better when they travel on Delhi's well-maintained metro (postponing their bad behaviour to when they come up to the surface again, some would add). All this is in keeping with the influential "broken windows" theory in sociology, which maintains that, if we control low-level, anti-social behaviour and take small steps to improve the environment, this will have a natural deterrent effect on larger criminal behaviour and acts of corruption.

2.41 Also, the sheer recognition and awareness that some collective qualities of citizens, such as honesty and trustworthiness, enable the entire society to do well prompts individuals to adopt those qualities and overcome the ubiquitous free-rider problem. Hence, for the long-run development of India, people need to be educated about the customs and qualities which, if possessed by all the people, can lead the nation to progress and development. This brings us back to the subject of education and emphasizes that this has to be more than learning from textbooks about facts and figures. While discoursing on technical economic policy matters, it is easy to be dismissive of the psychological and sociological determinants of economic outcomes. While it is true that these interconnections have little to do with short-term fiscal decisions, in contemplating medium- to long-term policies for a nation's development, which was the subject matter of this chapter, it would be remiss not to mention these non-economic foundations of economic prosperity.

A Miscellany of Concerns

2.42 While these opening chapters draw heavily from the rest of the *Economic Survey* devoted to specific sectors and there is no need to be comprehensive here, it may nevertheless be worth putting in a foreword for some specific areas of policymaking. For more than a decade now India's services sector has been the powerhouse of the nation's economic growth. This is also a sector that now produces more than half the GDP of the nation. In recent years the industrial sector has begun to stir and, as discussed above, growth in this sector, especially its labour-intensive sub-sectors, can be an important antidote to poverty. Fortunately, major manufacturing groups, like automobiles, rubber and plastic products, and chemicals, have shown robust, double-digit growth during April to November 2009; and, according to the advance estimate for 2009-10, the manufacturing sector as a whole has grown at the remarkable rate of 8.9 per cent. The sector that continues to cause concern and, all said and done, is still the mainstay of the Indian population, is agriculture. There is need to undertake serious policy initiatives to reach the Government's target of sustained 4 per cent growth in this sector.

2.43 Here, as in other sectors, the aim of an enabling Government must be to provide the wherewithal of growth and enterprise and then leave it to the farmers' initiative and industry to take the sector forward. This implies that the state has to take purposive action to enhance rural infrastructure and promote research and development (R&D) pertaining to agricultural productivity. These are elaborated upon later in this *Economic Survey*, but it is worth mentioning here that innovative investment in irrigation and water resources, and a steady supply of energy and power from conventional and newer sources, such as solar and wind, can go a long way in empowering farmers. The need for R&D stems from the fact that India's agricultural productivity continues to be low, and improvement in this can go a great distance not only in helping us achieve the growth target of 4 per cent but also in building food security and keeping the lid on food price inflation.

The R&D sector is closely related to the state of health of higher education and the research institutes in the country. On these, India was once in the forefront of emerging economies but that may not be the case any longer. This is not because there have been changes in our system of higher education and research but, ironically, because there have not been. While other emerging economies, especially those in Asia, have modernized the organization and financing of higher education and research, India is only now beginning to stir on these fronts. With a couple of strategic steps to restructure, and the tapping of private-sector resources, it is possible for India to not only become a powerhouse in higher education but to be a global hub of education and research.

2.44 The idea of a global hub has implications for India's international and neighbourly relations. If the country can become a place where students come from not just all of South Asia but also Africa, South East Asia, South America and (given India's cost advantage and long history of excellence in higher education) also North America and Europe, this can become a catalyst for international trade and investment and, in general, create a greater role for India in the global economy. Further, by promoting civil society interaction and intellectual cooperation among the neighbouring nations, this can be a catalyst of peace.