

**SUSTAINING EMPLOYMENT AND EQUITABLE GROWTH:
Policies For Structural Transformation Of The Indian Economy**

Arvind Virmani



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Policies For Structural Transformation Of The Indian Economy**

*Arvind Virmani**

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* The views expressed in the paper are those of the author and do not represent those of the organisation for which he works.

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1 INTRODUCTION

Broad ranging economic reforms were introduced in the Indian economy in the early 1990s. Yet there was no evidence of a statistical break in the rate of growth of the Indian economy during the nineties, even though the rate of growth was about 0.5% points higher after the reforms. Over the last few years evidence has accumulated that the trend rate of growth is creeping up to 7%. As shown in [Virmani (2005b)] this is the lagged effect of radical external reforms (termed the J curve of liberalisation and productivity change) undertaken in the early nineties and sustained at a much more gradual pace since then. Much of the growth acceleration has, however, come from an increase in the rate of capital deepening rather than through an acceleration of total factor productivity growth (TFPG). On the contrary the latter appears to have reached a plateau at the end of the 1980s. The paper identifies critical policy reforms that are needed to promote structural transformation of the Indian economy and to take it to a higher level of productivity growth. These policy and institutional reforms are also necessary to ensure that the demand for unskilled labour and the increase in human capital is fast enough to ensure that distributional equity is maintained.

Section 2 summaries some of the pending policy reforms needed to improve the investment environment and maintain the gradual rise in investment. Optimistic observers believe that the economy is already on the path to a 7.5% to 8% growth. In our view sustaining such growth requires a structural transformation of the economy. One existing initiative (suitably strengthened and vigorously pursued), that will contribute to structural transformation of the economy is the building of National & State highways and their inter linkage to towns and villages. Out of the slew of possible policy and institutional reforms in different sectors the paper identifies five more reforms that have the capacity to fundamentally transform the productivity and growth environment. Section 3 explores the structure of the Indian economy and its links to the distortions introduced by government policies. The most noteworthy fact about the Indian economy is neither an excessive dependence of services nor the under performance on manufacturing. The fundamental structural problem of the Indian economy is that 2/3rd of the population is still dependent on agriculture. The paper shows that this linked

directly to an inflexible organized labor policy and to a lesser extent the SSI reservation. This section also sheds light on the role of manufacturing and services on future growth. Section 4 analyses the role of education services as an important element of the modern service sector. The education sector is critical to the future because of its potential multifaceted contribution. Like any other service it adds to the over all increase in GDP. It is reasonably labor intensive and creates semi-skilled and skilled jobs in both rural and urban areas and for the middle class. By augmenting the human capital of the poor and less well off it ensures that the wage distribution remains equitable. Most importantly it is vital to the generation of educated manpower that will drive the export of modern services and establish India as the World's pre-eminent Business and Professional Service Center. Section 4 outlines the policy reforms that are necessary for this to become a reality.

Labor intensive manufacturing cannot grow and spread nor rural labor shift from agriculture to manufacturing unless electricity is available. Electricity is neither a public good nor a merit good. It is a private good that is vital to production investment and employment generation. Fifty years of government misperception, monopoly, rent seeking and corruption have [resulted in the entry of mafia operations into](#) electricity distribution. A Central Power minister (who tragically passed away at a young age) told me many years ago that as a former leader of the DESU union, he was well aware of the problem of theft that characterized this organization. Section 5 addresses the issue of T&D losses and electricity policy and regulation.

Though India's external reforms since 1990 have been very successful, India has remained largely outside the global supply chain because of the historical legacy and perceptions. This is now beginning to change. Section 6 presents the reforms (FDI & Tariffs) that are still needed to accelerate the pace of change so as to maximize the advantage to India from globalization.

The greatest long-term threat to Indian growth and development is the gradual (almost unnoticed) deterioration of governance over the past 30 years or more. This must be reversed if India is to maintain its rapid development into an upper-middle income

country. In India Government is expected to solve every problem that attracts attention, but does not have the capability to even fulfill its most basic constitutional duty – to protect the lives and property of its citizens so they can live without fear and as equals under law. Section 7 analyses the problem and suggests remedies, particularly the need for focusing government administration on the provision of Public and Quasi-public goods and services. Section 8 concludes the paper.

2 Enhancing Competition: Private Investment

The web of controls created by the government over the decades is a virtual jungle whose profile is well known, but whose details are not known so well known. It covers every sector of the economy but remains particularly oppressive in areas where government was an active producer/supplier, such as physical infrastructure (railways, power, irrigation & drainage, urban utilities), social sectors (education, health) and mining. It also remains in factor markets.

The broad approach to market reform is familiar.¹ That is to promote competition wherever it is possible to do so and to mimic competition (introduce *benchmark competition*) through enlightened professional regulation where there are natural monopoly elements. Thus for instance, the first step in railway reform could be to allow the private sector to provide train services (while keeping the rail network under the Indian Railways).² There is still not sufficient understanding, however, of the difference between professional regulation for development of the industry in the long-term interests of consumers and interventionist controls to force extraneous consideration and interests upon it. Thus identifying and eliminating the latter and defining and implementing the former requires detailed study of each sector/sub-sector, hard work and determination to overcome self seeking arguments and vested interests. These reforms will gradually and in parallel, accelerate capital deepening and Total Factor Productivity growth (with different lags) and thus raise GDP growth above its current potential (trend rate) of 6.5% per annum. An illustrative list of such reforms is given below.

¹ See for example Virmani (2002b, 2004).

² Any interested PSU could also run train services in competition with IR.

2.1 Railway Policy Reform

Private competition has recently been allowed in the area of movement of containers over the railway network. Private participation is being considered for building/operating the high-speed freight corridors. A railway system with free entry of private rail services subject to a professional regulator is an objective that should guide the reform:

2.1.1 Regulator

A professional railway regulatory authority (RRA) should be created by law. The RRA would have authority over pricing of ‘natural monopoly’ elements and over the conditions & quality of supply. It must also promote competition wherever possible and forbear price control in potentially competitive segments. The RRA must ensure non-discriminatory access by new rail service companies to the ‘natural monopoly’ rail track network i.e. on the same terms and conditions as those available to the Owner Company.

The railway tracks along with signalling equipment constitutes a ‘natural monopoly.’ Pricing of the ‘natural monopoly’ networks and ensuring fair access to this network by new competitors is the most difficult job for the regulator. This job is facilitated if the natural monopoly network or segment is separated from the service provision functions. The two can be made into separate companies, with the former (network company) made a subsidiary of the latter (service company).³ The network company must work on the “public carrier principle.”

2.1.2 Investment De-licensing

Complete investment de-licensing is necessary to ensure that the public users get the full benefits of competition. Global experience is that the monopoly provider, who has the incentive & the means, works to undermine competition. The regulator with the support of the users must actively thwart the monopolist in the interests of the public. Investment must be fully de-licensed, with no artificial barriers. It is only through free

³ Examples of separation failure refer to cases in which the rail track company was completely separate from the service provider. The proposed system is designed to ensure incentive compatibility.

private entry and competition in providing all services that the gains from technological change, economies of scope and productivity improvement can accrue to the public.

2.1.3 Corporatise And Un-bundle INR

The ‘natural monopoly’ segments and service provision of the Indian Railways should be converted into separate companies, which can be termed the ‘Network Company’ and the ‘Service Provider’ respectively. The former could be constituted either into a single Railway track corporation or four regional and one trunk line (inter-metro) corporation. The service functions could correspondingly be constituted either into two transport companies (for goods and passengers), or into four regional and one inter-metro transport company. If five companies are formed each track corporation could be a subsidiary of the corresponding service-company. The service company (ies) would initially be majority government owned. The service company (ies) should sell up to 49% of their equity in the rail track company (ies) to the public and use the funds for modernising the track& signalling system.

2.2 Other Policy Reform

2.2.1 Industrial De-control

Four industries, namely Sugar, Fertilizer, Drugs, Petroleum Refining, still remain under the sway of ‘Socialist style’ control despite the reforms of the 1990s. These must be decontrolled in a time bound manner. No special tax incentives for any of these industries should be entertained unless this is done.

2.2.2 Coal Mining

Expedite Coal Mines Nationalisation (Amendment) Bill to allow unrestricted private entry into coal mining. In the meanwhile allow ‘captive mines’ to sell coal to each other and to the entire set of companies whose ‘captive’ mines they are. Alternatively, allow ‘partially captive’ coal mines that are owned by a power plant company but can sell coal to any power plant (private or public).

2.2.3 Rent Control Act

The long passed and President approved Delhi Rent Control Act must be notified and a model rent control act propagated through the National Urban Renewal mission.

2.2.4 Bankruptcy Law

A modern bankruptcy law does not exist in India.⁴ We should either introduce a separate section on Bankruptcy in the Company Law or introduce a new bankruptcy law that facilitates exit of old/ failed management as expeditiously as possible.

2.2.5 FDI In Insurance

Formulate and introduce Bill for raising foreign equity share in Insurance to 49%. In addition or as alternative, to help dispel irrational fears, allow 100% foreign equity in a special category of insurance companies that provide all types of insurance (e.g. health, weather) to rural residents and for all agricultural related activities including agro-processing.

3 TFPG Through Structural Change

3.1 *Double Dualism*

Arthur Lewis outlined a model of the “labour surplus” Dual economy that captured some essential elements of reality in Asian Economies. In most economies of E and S E Asia that moved from low to middle to higher income, labour moved from agriculture to the informal non-agricultural sector and from there to the modern manufacturing / industrial sector. Universal primary schooling ensured that agricultural labour became ‘socialised’ and acquired the basic education needed to work in regular non-manufacturing jobs. After some on the job experience in the informal sector it was ready to serve as *unskilled labour* in the modern organised sector.⁵ The spread of secondary education ensured that labour was gradually able to undertake the semi-skilled jobs that opened up as the economy moved to middle income level. The Lewis model

⁴ SARFESI has solved the problem of BFIR

⁵ Primary education is essential for good quality unskilled work in modern manufacturing and services. Low levels of education in the labour force result in poor (average) quality of service and low average quality of mass consumer goods.

implicitly assumed that global technology and private goods such as electricity necessary for the modern sector were readily available. The only limitation was capital accumulation/investment.

Indian development policy converted the Dual economy into one with “double dualism.” The anti-scale bias of this policy made both mass-scale labour intensive manufacturing and relatively labour-cum-capital intensive manufacturing having significant economies of scale unprofitable. The former became another dual sector within the informal, while the latter become a dual within the modern sector, thus fragmenting the modern manufacturing sector along two fault lines. This has reduced the scope for productivity growth in the economy. It has also dramatically slowed down the shift of labour out of agriculture that one would expect in an industrialising economy.

3.2 *Agriculture Employment*

Indian agriculture’s share of value added has declined in line with the fall in demand for cereals and food that we would expect with rising per capita incomes. The “double dualism” has however had the effect of slowing the shift of labour out of agriculture. This can be seen from a cross-country comparison of the share of agriculture in Value Added and employment. Figure 1 plots these two shares for all medium-large countries ordered by per capita GDP at PPP (2001 data) and fits a trend line through each. India’s share of agricultural value added is marginally higher than the trend line, but agriculture’s share of total employment is way above what we would expect at its level of per capita GDP.

3.3 *Modern Services*

Contrary to a perception that the share of Value added from Manufacturing is too low and that from Services is too high in total value added both are marginally higher than the cross country trend line (figure 2). Among the high growth economies (GDP/PCGDP top 10 since 1980) India has had the third highest increase in the share of services in value added (13.7%) since 1980 after Hong Kong and Luxembourg. Somewhat surprisingly China had the fourth highest increase of 11.6% points. The former was only 1.15 times the latter, though the share of services in China’s GDP

Figure 1: Cross country Comparison of Agriculture Share (2001)

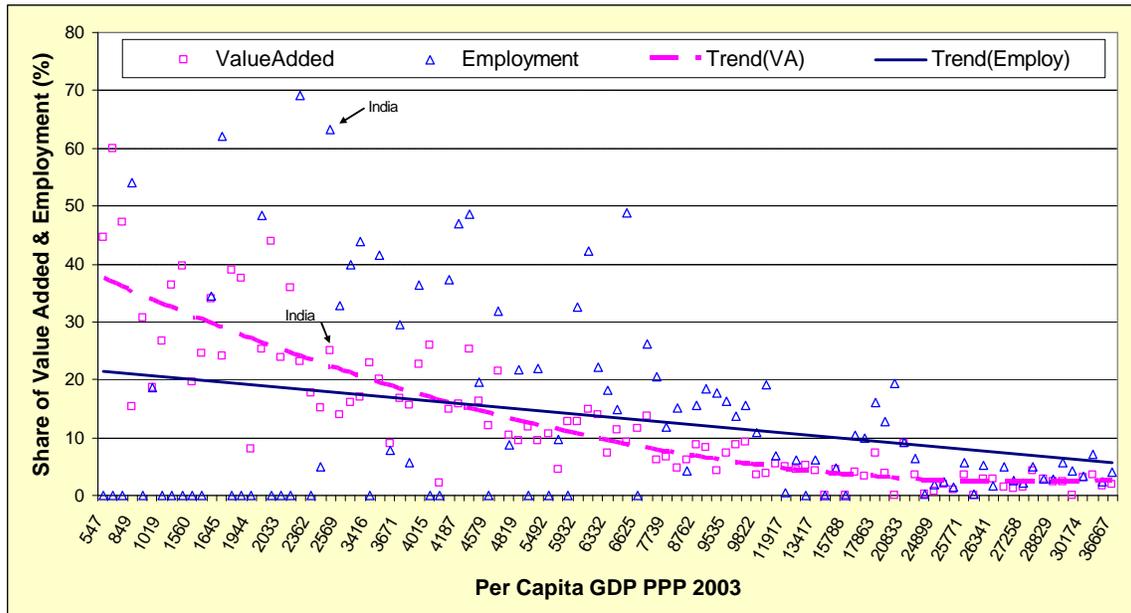
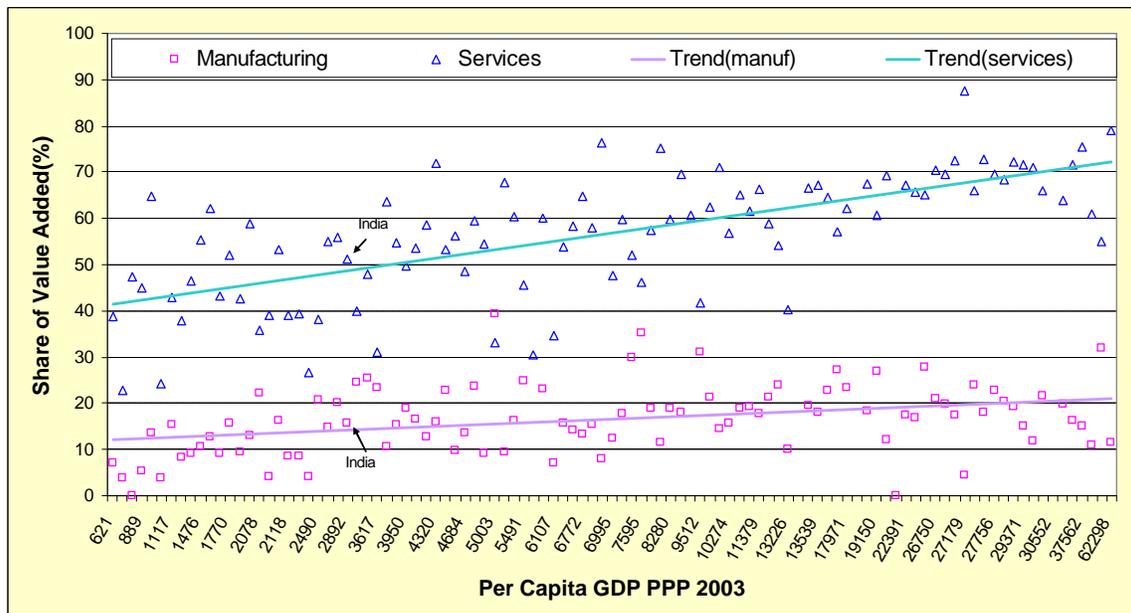


Figure 2: Shares of Manufacturing and Services in Value Added by Country



remains the lowest among this set of 12 countries, because of the communist legacy. India's service share is the highest among the low and lower-middle income countries.

As this issue has often been raised in public discourse it is useful to examine it briefly. We assume that the registered and unregistered sector approximate the modern and traditional manufacturing sector. We analogously divide the service sector into the modern and traditional. The former is defined as consisting of Electricity (+ gas & water), Communication, Finance & Insurance, Business services, Research & Development, Education and Medical services. The average growth rates during the phases and sub-phases are shown in table 1.

Table 1: Growth of Modern Manufacturing and Services

Phase	Period	Manufacturing			Services		
		Total	Modern (regd)	Traditional (unregd)	Total	Modern*	Traditional
I	1951-2 to 1979-80	5.3%	6.1%	4.5%	4.7%	6.9%	4.3%
I A	1951-2 to 1964-5	6.6%	7.9%	5.4%	5.2%	7.5%	4.8%
I B	1965-6 to 1979-80	4.1%	4.4%	3.7%	4.2%	6.3%	3.8%
II	1980-1 to 2003-4#	6.5%	7.0%	5.6%	7.0%	9.2%	6.1%
II A	1980-1 to 1991-2	6.1%	6.8%	5.0%	6.3%	8.4%	5.7%
II B	1992-3 to 2003-4#	7.0%	7.1%	6.3%	7.6%	10.1%	6.4%

Notes: * Modern services include Electricity, Telecom, Finance & Others.
 Others' are business, air travel, education, medical & R&D
 # = 2002-3 & 2003-4 are authors estimates for Other modern

The first noteworthy fact is that the average rate of growth of services has been faster than that for manufacturing in every sub-phase (except sub-phase IA) i.e. since mid-sixties. Despite this the share of services is in line with our per capita GDP. Second, modern services have grown faster than modern manufacturing and traditional services have grown faster than traditional manufacturing since sub-phase IB. As a consequence the share of traditional manufacturing and services has remained more or less constant during the reform phase. The share of modern manufacturing has grown by 40% while that of modern services has grown by 120 % from 1980-1 to 2003-4 (i.e. during phase II). Consequently in 2003-4 the share of modern services was about 21%, i.e. about a quarter larger than the 17% share of all manufacturing in GDP.

Though the relatively fast growth of modern services can be sustained till India reaches the high income category this will not necessarily result in a faster shift of the labour force out of agriculture. By definition modern services are more capital intensive (K/L) and less labour using than traditional services. Their degree of capital intensity varies just as it does within the modern manufacturing sector. It is likely, however, that on average modern services are more educated/skilled labour intensity (H/L) than modern manufacturing.⁶ Thus faster growth of modern services implies faster growth of demand for educated/skilled labour than for unskilled labour. Therefore unless the policy distortions that constrain modern labour intensive manufacturing are addressed the problem of excess labour in agriculture and the rural-urban poverty gap would be difficult to solve.

3.4 Manufacturing productivity

Historically the most important driver of productivity change in low and lower-middle income countries has been the shift of labour from agriculture to modern industry. In India the proportion of the total labour force in manufacturing has increased marginally from 10.2% in 1977-8 to 11% 1999-2000 while the share of GDP from manufacturing has risen from 13.6% of total GDP to 16.7% of total over the same period. The structural shift of labour continues to be stymied in India by inflexible labour laws that discourage hiring of (unskilled) labour in organised industry (and services) and encourage the adoption of (unskilled) labour saving technology.⁷ The adoption of capital intensive technology in modern manufacturing results in faster capital deepening and lower aggregate TFP growth than would have prevailed under flexible labour laws, though productivity continues to increase. This contrasts with the performance of S. E Asian countries with more flexible labour laws, which have simultaneously had higher rates of growth in manufacturing employment and Value added and in overall growth than India.

In 2003 the share of Manufacturing in GDP was lower in India (15.8%) than that of 53 other countries (out of 97 countries with GDPppp \geq \$15 bi.). Most of the economies

⁶ In India this could itself be due to fear of the labour laws that have constrained manufacturing.

⁷ Hashim and Virmani (forthcoming)

that grew faster than India during 1980 to 2003 had a higher share of GDP from manufacturing than India. Among these were China (39.3%), Thailand (35.2%), Malaysia (31.1%), Singapore (27.9%), Indonesia (24.7%), S Korea (23.4%), and Vietnam (20.8%).⁸ As share of manufacturing in GDP starts to decline after countries reach high income level, the share of manufacturing in high income countries is declining naturally. It is therefore useful to look at the highest share of manufacturing GDP reached during this period. 70 out of 100 countries attained a higher share than that of India (18.1%).

3.5 Labour Flexibility

The key to rebalancing India's employment structure and sustaining higher TFPG levels is increased labour flexibility, the modern democratic equivalent of competition in the labour market. Modern social democratic societies apply a different metric to competition in labour markets (involving flesh and blood human beings) than they do to markets for goods and services. Only in a dictatorship or communist country can "hire and fire" really mean what the Indian left accuses it of being in democratic countries. In democratic India, we do *not* need to introduce a Chinese Socialist system that allows FDI/exporters to "hire and fire" and make them work 80-100 hours of work per week, 52 weeks a year. We do, however need to allow, in the interests of the common labourer, labour markets to adjust to changes in demand and supply i.e. to become more flexible.

The extreme rigidity in the Indian labour system is partly a matter of laws, partly of rules and procedures that assume that labour is always right and the employer always wrong. We need a change in laws, rules and procedures that allow greater flexibility:

- a) The Contract Labour Act must be changed along the following lines: (i) Companies providing their permanent employees as contract labor should be responsible for abiding by and meeting the obligations of labor law and not the companies using the labor. The latter should be free to use contract labor for any purpose for which the former are willing to provide contract labor (non-core & core). (ii) There should be no restrictions on the setting up of companies to provide contract labor. (iii) A contractor providing services should not have to obtain a license for each premises where he provides contract labor (modify section 12) through use of employees who are his

⁸ Japan whose high income period was between 1950 and 1980 had a maximum GDP share of manufacturing of 28.7% during the post 1980 period and was 20.5% in 2003.

regular permanent employees (several court orders have held that this should not be necessary). (iv) Rules relating to Section 19.2 of the Minimum Wages Act should be amended to require records of contract workers provided on a client premises to be maintained at the headquarters of the provider (instead of at the premises of the client).

- b) Even if the laws relating to closure and retrenchment cannot be changed, the rules must be modified so that firms whose business/ demand/ sales falls sharply can reduce the size of their work force commensurately. One way to increase flexibility is to amend the factory Act so as increase work week to 60 hours (from 48) and the daily limit to 12 hours to meet seasonal demand through overtime.
- c) We need procedures that make it easy (not difficult) to fire lazy employees who do not want to do productive work and/or undermine the motivation of other to work.

Germany and France have among the most rigid labour laws in Europe, while continental Europe is recognised to have more rigid laws than the USA and UK. In Germany workers would feel that it is their responsibility and right to work hard and produce quality output. It would be unthinkable for workers to believe or expect that they will not be fired if they shirk work. Even in France where they may object to a profitable company firing its workers and moving its operations to another country, no one would question the right of a company to reduce its work force when demand falls sharply. If we can change our mindset and make essential changes in the laws, rules and procedures, the structural transformation of the economy could resume with consequent acceleration in TFPG.

Companies providing contract labour should be responsible for abiding by and meeting the obligations of labour law and not the companies using the labour. The latter should be free to use contract labour for any purpose for which the former are willing to provide contract labour. There should be no restrictions on the setting up of companies to provide contract labour. Part of this could perhaps be done by identifying and changing some of the rules (so called Temp providers)

Accelerated removal of SSI reservation would complement this process as would a reform of education. All remaining items in the SSI reserved list should be removed. If

this is not possible in one go, half the items could be removed now and the rest a year later.

4 Competition in Education

One of the important failings of Indian socialism was the gross neglect of literacy and primary education. The contrast is particularly glaring when we compare with communist-socialist countries such as the USSR, Eastern Europe and Maoist China, who achieved a high level of education for the general population/labour force. One of the less noticed consequences of this neglect⁹ is the poor (average) quality of services (e.g. equipment repair, construction & associated repair) and goods of common consumption (including drugs & pharmaceuticals) generally produced by the small scale sector and Khadi & Village industries.¹⁰

The education sector grew at an average rate of 6.2% per annum in phase I from 1950-1 to 1979-80. It continued to grow at around the same rate in Phase IIB from 1980-1 to 1991-2. Growth has accelerated sharply to an average rate of 9.0% per annum during sub-phase IIB from 1992-3 to 2001-2. This has happened despite,

- a) Government expenditure on education and training decelerating from an average growth (1993-4 prices) of 11.7% per annum in phase I to 6.4% per annum in sub phase IIA and further to 5.2% in phase IIB (till 2001).¹¹
- b) Severe constraints on private provision of education. The Supreme Court had (earlier) interpreted the constitutional provisions that enjoin the State to provide education to its citizens, as prohibiting private provision of “basic” education (schooling, BA/BSc, MA/MSc).¹² The SC had however allowed non-profit organisations (societies and trusts) to set up non-governmental

⁹ Largely because of the unavailability of statistical data on quality, and the measurement problems.

¹⁰ In the case of drugs produced by SSI, including spurious drugs, this can have serious consequences

¹¹ Nominal data is from Ministry of education web site. Deflator is based on NAS GDP for education.

¹² The definition of “basic” appears to exclude professional courses such as information technology, medicine and engineering.

schools, so as to “assist/help” the State to fulfil its constitutionally mandated duty.¹³

With reforms the rate of growth of the sector could be doubled and its quality improved manifold without an excessive strain on limited government revenues. The education sector in India can be transformed within a span of 3 to 5 years given the right mix of policy, regulation and reorientation of government expenditure. This in turn can have a profound impact on the quality of output in all sectors of the economy and the competitiveness of Indian industry, services and agriculture. What we need is constitutionally and legally sanctioned competition in tertiary and secondary education, replacement of bureaucratic controls by professional regulations along with private-public partnership to ensure universal primary education within 3-5 years.

The key to success is removal of current bureaucratic controls and interference with aggressively promoted competition by professionally empowered regulators (not controllers). A policy framework for the competitive supply of education by non-government organization will have the following elements:

- a) *Rating Agencies*: University Grants Commission /All India Council for Technical Education / National Accreditation Council / Medical Council of India/ Professional Councils, would Register / License rating agencies in their area of authority / expertise. Some of these rating agencies will specialize in specific subjects, but others could cover multiple topics or broad areas. These rating agencies would devise a system for rating the quality of educational institutions and offer their services to all education service providers (private & public).
- b) *Private Entry*: Free entry of registered societies (non-profit) and publicly listed (education) Companies in all fields of education, subject to the following pre-specified conditions:
 - i) *Quality Rating*: Compulsory rating by accredited agency (prior to accepting any fees from students). Ratings must be renewed every year at least for the first 3-5 years. Periodicity of compulsory rating can be reduced thereafter.

¹³ When too many legal elements and rules are grey, profit making educational institutions are not allowed or restricted and controls are a means to generate personal income, only shady institutions can thrive.

- ii) *Transparent Fees & Accounts*: Fees must be published and known in advance. Accounts must be audited by CA and results made public if revenues/fees received exceed Rs. 10 lakhs. Un-audited institutions must publish their basic/ minimum accounts (revenues, expenditure, profits, capital investment, no of students, average fee per student) in prescribed format.
- c) *Subsidy Accounting*: Any education society that gets below market-price land or other assistance must give means-cum merit scholarships to needy students equal in value to the effective subsidy.
- d) *Government Grants/Scholarship*: An impartial system for determination of what would be a fair and affordable contribution of parents to children's education based on family income/ wealth. This system would also calculate eligibility for education loans and grants.¹⁴ Such an integrated system can be modeled on the government run online system that exists in the US, but modified to suit Indian circumstances. The system would ensure that the poor and lower middle class children get the grants and the middle class the loans that they need to educate children to the level of their capabilities and interest.
- e) *Removal/minimization of controls and restrictions*: For instance specification of particular infrastructure and/or number of teachers etc would be redundant, as rating agencies would evaluate institutions based on output, peer evaluation and other relevant aspects.

The reform could be phased in gradually if political/administrative risk aversion makes it necessary. They could start with Tertiary education and extend to Secondary education within 3 years and to Primary education thereafter. We could also start by freeing entry of Non-profit organizations (domestic and foreign) registered under the societies act, trusts and co-operatives and follow it up with entry for registered education companies(within three years).¹⁵

¹⁴ All those wanting scholarship grants would have to provide the required information so that their requirements of scholarship grants and loans can be evaluated.

¹⁵ We could immediately allow free entry of A grade global universities (global grading already exists) into India. B grade global universities would have to register and get local grading like the domestic ones. The entry of C grade global universities/colleges should require prior approval and tight regulation.

Simultaneously the government should focus its attention and resources on ensuring universal primary education within 5 years. For this purpose all types of public-partnerships must be explored (e.g. management contracts, capital subsidies to NGOs). Government school teachers must be made accountable to user associations consisting of parents and grand parents of school age children and/or local government. This can be done by giving authority to these associations (*progressively*) to (a) Grade teachers (negative marking for class absence), (b) determine a part of their salary (10% say) and finally (c) to dismiss them depending on the grade over 3 to 5 years.

Government's higher education funds should be focussed on promoting science education, generation of PhD s and financing of R&D in all subjects.

5 Electricity: T&D Mafia and Policy Risk

The third policy reform that is capable of structurally transforming the Indian economy is electricity reform. Some of our analysis suggests that electricity supply by government monopolies has been the most important (infrastructure) constraint on overall economic growth. It is the only component of infrastructure that turns out to be statistically significant in growth regressions and FDI analysis. A condition of excess supply of electricity could transform manufacturing competitiveness, demand for consumer durables and the rural non-farm economy.

There are two fundamental problems. First, policy and regulatory risks are too high despite the passing of the path breaking Electricity Act (2003). Second, the issue of T&D losses (in reality Theft and Dacoity losses) has not been seriously addressed. Let us start with the second issue first. Officially reported T&D Losses at the all India level were 32.5% of total availability in 2003-4. They ranged from a low of 17.2%¹⁶ to a high of 57.1 %. It should be kept in mind however, that a thorough review of these losses in the past has resulted in a sharp jump in the estimated T&D loss. Thus for instance in Andhra Pradesh they jumped 1.7 times to 33.1% in 1996-97 from 19.6% the previous year and in Karnataka they jumped 1.6 times to 30.6% in 1998-99 from 19.1% the previous year. With the city States of Delhi and Goa have T&D losses of 43.7% 45.1%

respectively one would not be surprised if an independent audit showed All India losses to be of the order of 50%.

Private entry into distribution cannot be sustained unless organised theft is eliminated and T&D losses brought down to levels considered normal across the World (i.e. around 8%). This requires taking on the *T&D mafia* that diverts half of available electricity into the black market for personal gain. The arguments about whether rich or poor steal more electricity are a red herring. The T&D mafia is deeply entrenched in the State Electricity Boards and their successor distribution companies and ensures that political patrons share in the loot so that nobody questions or exposes them. The mafia can only be controlled by a combination of peoples power (Resident Welfare Associations), sustained reporting by media, legal changes (power to acquire the ill gotten assets of SEB/ distribution company employees) and administrative/police action. Success requires recognition by all protagonists that a T&D mafia is being confronted, not individuals stealing power.

During the debate on the Electricity Bill (2003) the opposition rightly wanted more independent and stronger regulators. It agreed to facilitate passage of the Bill only after the govt. promised to bring in the desired amendments at a subsequent date. Since the opposition became the govt. an ill fated attempt to weaken (rather than strengthen) the regulator has thankfully been thwarted. The delay in implementation has, however, increased regulatory risk, whereas professional, secure regulators would reduce it. The noises from several State governments similarly suggest a desire to weaken rather than enhance open access by non-transparent and dilatory setting of access charges. Pricing of access is a regulatory function and regulators must be empowered with the authority and the professional capability to discharge this function, if policy and regulatory risk is to be eliminated.¹⁷

The definition of open access needs to be widened to include the use of existing system of distribution towers to string ones own wire line. Accountability for T&D losses

¹⁶ In Tamil Nadu

¹⁷ This has two components a tax to support legacy losses and inefficiency in the State Electricity Boards and a carriage cost, based on a fair sharing of the costs of the natural monopoly distribution network.

on this wire is with the wire owner and not on the distribution company that owns the tower and wires. Access charges can be based on technical factors and will have no component arising from normal T&D losses. This will increase competition in areas where the incumbent is unable to reduce theft because of political reasons.

Without a progressive elimination of Theft and Dacoity losses and of policy/regulatory risk a radical transformation of the electricity supply scenario is, however impossible. This requires 100% automatic metering down to the Distribution transformer level (each of which will have a unique number based on the feeder and the HT line from which it gets its supply). This will generate real time data that can be monitored, stored and analysed to identify unusual patterns of demand (domestic, industrial and agriculture demand have their own signature). A complete enumeration of customers can then be carried out with each consumer allocated a number that identifies the transformer from which its electricity is sourced. This will allow aggregation of legal usage by transformer and consequent detection of leakages down to the transformer level in cities and non-agriculture areas. Detection of leakages from agricultural/unmetered users (e.g. per month charges or free power) may require automatic metering down to the distribution pole level and/or separation of agriculture distribution lines.

Another more radical solution would be to declare a ten year (say) regulatory holiday for all new investment in generation, transmission and distribution. To ensure that there is no regulatory confusion, all such new investment should be by new companies or companies that have no existing electricity investment. Existing regulations would continue to apply to existing operations, which would gradually be improved along the lines indicated earlier. The new companies would be free to set up new distribution systems, share such systems among themselves or undertake any other investment or production without being subject to any price or distribution controls for a period of 10 years from start of operation.¹⁸ The supply situation could be radically transformed within these ten years, by which time policy and regulatory risk could also be eliminated, so that the two sub-systems can easily be merged.

¹⁸ Of the first new company.

6 FDI: Global Supply Chain

The fourth reform that can structurally transform the economy is the integration of Indian manufacturing in the Global supply chain. This involves both policy and institutional reforms. The second half of the 20th century has been characterised by a fragmentation of production and outsourcing of many stages of the manufacturing process. Though it started with domestic outsourcing, it has crossed the border during the last quarter of the century, so that an increasing amount of World trade is intra-industry trade in intermediate goods. “Exports of parts and components—a proxy for participation in global networks – increased by almost 2 percentage points faster than exports of total manufactured goods from 1981 to 2000.”¹⁹ The world trade share of electronics, chemicals and transport equipment and machinery, where trade in components is most important, has risen to 43% in 1997 (from 27% in 1986).²⁰ The share of US multinational affiliates’ imports of intermediate inputs in their total sales has also risen significantly over time. By 1994 it was about 12% in manufacturing, 11% in industrial machinery and equipment, 22% in electronics and 24% in Transport equipment.²¹ Intra-firm trade constituted over 35% of total US trade and about 30% of total Japanese trade in 1999.²²

As FDI constitutes a bundling of capital, technology (including management & marketing expertise) and entrepreneurship, it is an especially potent force for growth in a globally integrating World. The ASEAN countries were among the first historically to use FDI and exports as a major driver of GDP growth. Part of their success lay in capturing the cross-border wave in outsourcing of manufacturing to become a part of the global production chain. This is reflected in the high concentration of exports of parts and components from developing countries (LDC), with 78% of LDC exports of parts and components coming from China, Mexico, S. Korea, Malaysia and Thailand. China has been both more welcoming and more dependent on FDI and exports to propel its growth. It opened the real estate sector and retail trade to FDI fairly early in the reform and has reaped the benefits in terms of showcase urban properties (e.g. Shanghai) and availability

¹⁹ Global Economic Prospects 2003.

²⁰ Shive and Chyn (2001).

²¹ US Bureau of Economic Analysis as reported in Hanson, Matalini and Slaughter (2001).

of both high quality branded products (exportable) and their much cheaper but relatively high quality replicas of consumer products. Over 55% of China's exports originate with FDI enterprises, a percentage that is significantly higher than in Asian miracle economies. One estimate (Wanda et al (2001)) suggests that FDI has contributed over 2% points to TFPG and about 3% points to annual GDP growth in China.

In contrast to S.E. Asia, China and most countries in the developing world, India has strong domestic entrepreneurship. FDI is therefore much more likely to play an incremental role and complement domestic investment. The inflow of FDI into India has however been so low in the past that we have not even exploited this potential for complementarity. In the 24 years to 2003 FDI has averaged 0.3% of India's GDP and 1.3% of Gross Fixed Capital Formation. This placed India close to the bottom of the set of 82/83 medium large countries at 86th/87th rank or in the 7th percentile. Despite the opening of FDI in the 1990s our relative rank has not improved significantly as other countries have also opened up. In the last 12 years FDI has doubled to 0.6% of GDP and 2.4% of Gross Fixed Capital Formation but India is still ranked at the 9th percentile for the former and in the 7th percentile for the latter. That is only in 7 out of 100 medium-large countries is the contribution of FDI to total investment (GFCF) less than in India.

Banga (2003 a,b,c,d) has shown that even the limited FDI that has taken place in India since 1991 has had a positive effect on efficiency, exports and productivity growth of industries where it has flowed. Freeing of FDI in retail would help our integration into the consumer driven supply chains (e.g. in textiles). We should therefore remove all equity restrictions on foreign FDI in the Indian economy in a phased manner, by allowing 49% to 51% FDI for an initial period of 3 years (to facilitate collaborative learning and spill over), followed by permission for 100% FDI. If political resistance is too strong to resist, allow 51% to 100% foreign equity in foreign branded, specialized retail chains (e.g. Luxury Brands, Consumer Durables, Semi-Durables, Food distribution).

²² OECD (2001), World Bank (2001).

6.1 Bureaucratic Mindset

Most important is a change in the mindset of the Indian bureaucracy in its attitude to private investment and production, both domestic and foreign. Institutional reform that makes the bureaucracy responsible for aggregate production, employment and investment could accelerate TFPG and capital deepening. The labour and education policies suggested above would not only help the pace of global integration but also multiply the benefits to labour.

6.2 Tariff Rates

Virmani et al (2004) have demonstrated the positive effect of the dramatic reduction of tariffs during the 1990's (coupled with the elimination in QRs) on the Indian economy. Reduction of tariff rates to developed country levels would facilitate integration into the global supply chains. In particular it would help in integration into the global production network run by companies headquartered in the developed countries, but which have production facilities (FDI) in developing countries. Globalisation has meant that different stages of production are carried out in different countries and goods move in and out of countries, particularly in producer driven supply chains. Low tariffs on raw materials, manufactured intermediates and capital goods greatly facilitate this outsourcing.

We have to distinguish between agricultural and non-agricultural tariffs, as the ability of the farmers to compete is (on average) considerably less than that of non-agricultural entrepreneurs. This differential arises from the differentials in education, information and rural infrastructure. Thus a slower reduction in agricultural tariffs can be justified.

Virmani (2005) recommended reduction of (peak) non-agricultural tariffs to 10% in the 2006-7 budget and to a (uniform) 5% by the 2008-9 budget. The Planning Commission has supported the former and the Finance Minister has indicated in a speech that it he would consider it. The introduction of a uniform non-agriculture tariff of 5% thereafter would not only send a strong positive signal to FDI investors, but also make it

easy for them to carry out all semi-skilled labour intensive stages of manufacturing in India. A realistic schedule of tariff reductions could be as follows.²³

Table 2: Customs Duty Reduction for Competitiveness

Description of Goods	Proposed / Recommended Custom Tariffs					
	2005-6	2006-7	2007-8	2008-9	2009-10	2010-11
1 All Goods (excl 2-4)#	15%	10%	7.5%	5%	5%	5%
2 Cars & 2-wheelers*	60%	30%	20%	15%	10%	5%
3 Agricultural						
General	30-60%	30%	20%	15%	10%	5%
Specified*	65-100%	45%	30%	25%	15%	10%
4 Hard Liquor (> 5% alcohol)	150%	100%	50%	25%	20%	15%
Note: # this is the "Peak Rate" for non-agricultural goods. (at 5% the customs duty should become uniform)						
* Agriculture & allied goods include agro based products like wine & beer (Low alcoholic beverages with alcohol content < 5%)						

7 Government: Back To Basics

The conventional wisdom is that the role of government was curbed by the new economic policy introduced in 1991-92. In fact, the public sector's share of GDP rose to its peak of 26.7% in 1998-99.²⁴ The public sector's share of Gross Fixed Capital Formation peaked several years before the 1990's reforms (at 52.8% in 1987-88) because the government had no savings left to invest. Since then the public share in GDP has indeed gone down to about a fourth and its share of fixed investment (GFCF) has gone down to less than a third.

The government's thirst for intervention in all spheres of economic and social activity has far exceeded its ability to achieve positive outcomes in any of them. The high moral fervour that characterised the political leaders and the positive motivations that drove the administration at the time of independence has long since faded. There is a large gap between the theory of Government intervention and the Practice of governance in a low income democratic country. In theory market failure has been used to justify the

²³ The Peak rate reduction in the 2006-7 budget has, however, been less than recommended. There is no reduction in agricultural tariffs.

production of all kinds of goods and services by the government. In practice the problem of government failure is now much more serious. In theory ownership of the means of production by the government should result in efficiency equal to private ownership and greater equity. In practice government production and supply is characterised by lower efficiency and either no gains in equity or the creation of new inequity. The high moral purpose assumed to be present in public functionaries does not exist and incentives systems for motivating desired behaviour (e.g. profit maximisation or cost minimisation) cannot be sustained in the public sector because of political overlordship.

The theoretical accountability of politicians to voters is thwarted in practice by sharing misappropriated public resources with special interest groups whose vote is critical to re-election.²⁵ All interventions are justified by the ministers and administrations as in the public interest or in the name of the poor or both. This professed concern of government for the public, contrasts sharply with the neglect of public goods & services that are the traditional & accepted responsibilities of every government. One such responsibility is the security of life and property (policing). The theft of electricity, represented by the data on T&D losses of 40% to 50% and the visibly poor quality of Urban roads, drains, sewerage and water supply systems are just a few of the many indicators of State Government failure.

A large proportion of public functionaries (including people's representatives) *do not care about the public interest*. About 80% of them (from the peon upwards) are corrupt.²⁶ "Corrupt" is used here in the wider sense that the functionaries have little or no interest in the job per se or the institution's objectives and public purpose. The government job (for too many of them) is merely an instrument to further their personal interests, whether a promotion, a posting, a seat in a university/job for their children, a bribe, election fund or votes (see Virmani (2002b)). The principle-agent problem is compounded in such low

²⁴ The variables are in 1993-94 prices, with appropriate deflators applied to public and total values. The ratios may differ if current prices are used.

²⁵ Means (laws, rules) and Ends (objectives/goals) are inverted resulting in the infamous Bureaucratic Red Tape; Means (rules, procedures) become Ends in themselves and the original Ends are sometimes used to justify the means (the new goals) even if these ends are being met by others.

²⁶ This estimate is based on conversations with a sample of retired senior IAS officers, IB officials and SSI proprietors and industrialists. The other 10% are either neutral towards the job, perhaps because there are no incentives and many disincentives or work beyond the call of duty because of inner drive.

quality government systems, because nobody has the clear incentive to promote the organisation's objectives. For instance when the minister's objective is (at best) to maximise votes for him, there is no sustainable incentive scheme for PSU managers to maximise PSU profits rather than their own welfare. The deterioration of the quality of governance is the most important cause of growing interstate disparities in Poverty rates.²⁷ The absence of any genuine/sincere desire to accelerate growth and poverty reduction has the greatest negative impact on the least developed States, including on their supply of social services and safety nets. In several States (particularly the poorest) the provision of public goods like courts/judiciary, policing and unbiased administration has deteriorated so badly that expropriation risk is too high for most new investment and danger of kidnapping for ransom too high for anyone with skills that can be marketed elsewhere to remain there.²⁸ **It is worth noting that many of the remaining 10% or so, who are not 'corrupt' in the sense defined above, may work above and beyond the call of duty.**

The solution is to free the people, non-profit organisation, entrepreneurs and companies to do what they can do best and to focus the government's limited resources, attention span and time on functions that only the government can do. This is to supply *public goods* & services and to ensure the supply of *quasi-public goods* (particularly those having production externalities) up to a level at which the social benefits equals cost of provision.²⁹ The supply of public goods like local & connecting roads, aquifer recharge & management, agricultural R&D and its dissemination ('extension services') control of disease vectors, quasi-public goods like irrigation & drainage, railway network are inadequate to the demands of modern agriculture & commerce. Similarly public services like communicable disease **control**, public health education, sewage systems, and quasi-public goods like drinking water, public sanitation services, primary education, is inadequate to the demands of modern, healthy, disciplined labour force. Governments, particularly in the poorest States, must *focus on these basics of government* and use public-private partnerships wherever possible to improve efficiency in supply of quasi-public goods and lift all controls (bureaucratic red tape) on the non-govt sector (see chart

²⁷ Though the deterioration started many decades ago, it reached a tipping point with the entry of criminals into the legislatures of the heartland States.

²⁸ Resulting in large scale out-migration.

4). A reduced span of activity also reduces the information requirements for transparency and accountability to voters. The media can therefore play a more effective role in monitoring performance and exposing corruption.

To motivate administration, administrators should be judged by the increase in value added within their area and sphere of responsibility (Economic Sub-objectives: production, investment, productive employment). This would provide an incentive to shift from '*red tape*' to '*green tape*.' Professional regulation of State highways, canal networks, electricity transmission & distribution and primary & secondary education by independent regulators would multiply the social gains from private entry into these sectors. Together such focussed improvements in governance have the potential to eliminate inter-State differences in poverty and growth and thus raise the growth rate of the entire economy.

Every program/sub-sector should have an internet accessible Public Accountability Information System (PAIS). Such a system would have two objectives.

(a) To provide information to the targeted population about (i) the expenditure allocated and spent, the receivers of the expenditure, (ii) The major program inputs purchased (sources, amounts) the people hired and their actual attendance record (e.g. teachers), (iii) The output of the program and when available its quality. These would be put on the website accessible through the internet.

(b) To empower the target beneficiaries (users) to put up their own evaluation of the program alongside the government provided data & information. Thus for instance in the case of primary education, parents of enrolled children should be able to post their comments on the attendance record of their primary school teacher, the number of children graduated and the quality of the education provided. They could also agree/disagree with the govt. posted data (as per (a) above). This would be a review system patterned on existing systems like Amazon Books in which readers can post book reviews.

²⁹ Strictly, "are not lower than the social costs of provision."

A PAIS system should be designed for the Police and Courts and introduced on an experimental basis in Delhi and other Union territories. PAIS systems could also be designed for local roads, sewage & sanitation, drinking water supply and tested in the Union Territories.

In States PAIS would be a geographically multilevel, multi-layered system in which higher levels would present data after aggregation/integration from lower levels/layers.

8 Conclusion

Historically, economic development and growth have been characterised by a shift of labour from low productive agriculture to high productive manufacturing leading to acceleration in factor productivity (TFPG). In this process labour first migrates from rural areas traditional urban services before moving on to urban industrial jobs. Our highly rigid labour policy for the organised sector, along with SSI reservation, has thwarted this transition from traditional agriculture to modern industry. Given the difficulty of reducing labour supply even when there is no demand for products modern industry has the incentive minimise use of labour. It has done so by adopting more capital and skill intensive techniques to minimise market demand risk and by fragmenting into smaller units to escape these laws. Though industry can and will continue to grow, it will not generate employment at the rate that it could have, unless labour laws are made more flexible and employment oriented.

An additional factor in the structural transformation is universal primary education. Such education teaches not just reading and writing but the new type of discipline of working with machines that have their own rhythm and requirement (different from nature dependent agriculture). Government has a vital role in ensuring universal primary education. Given the lack of accountability and high cost of supply of government education, the non-profit sector can play an important role even the supply of schooling if the right policy framework and regulatory system is put in place.

The non-govt. sector (non-profit and commercial), constrained so far by the constitution and courts, can play an equally vital role in promoting technical, higher and professional education. The paper shows that the problem of information asymmetry

between buyers & suppliers of education, can best be addressed by mandatory disclosure of information that can help the buyer judge the quality of the supply and its real cost / price. Compulsory rating of education providers and standardised disclosure of accounts and fees can help solve much of the problem and allow removal of conventional, oppressive, bureaucratic controls and approvals.

Electricity is the most important intermediate input into modern industry no matter how labour intensive. Its ready availability could have transformed rural areas into semi-urban hubs of industrial activity (given road and telecom connectivity) that could thrive as genuine small scale industry (rather than the hot house variety nurtured by excise exemptions). By turning it into a merit good we have created a (Theft & Dacoity) mafia that siphons off 50% of the electricity through what are euphemistically called Transmission & Distribution losses. The paper has shown how this must be tackled and a rational policy and regulatory system put in place. If these two things are done a flood of private investment can very quickly (in 3 to 5 years) make electricity shortages a thing of the past.

Modern competitive markets are essential for modern industry to grow and flourish and these cannot exist without the Rule of Law and public security. Producers must be physically connected (permanent roads) to each other and to consumers. Both connectivity and security of people and goods are essential for the division of labour to take place in a sustained and effective manner. The government has over the years since independence, spread itself so widely and thinly over so many problems and issues that it is unable to supply these public goods that are its primary responsibility. The paper shows that a new approach to governance that focuses on the supply of Public and Quasi-public goods and services and leaves the production of private goods and services to the non-profit and commercial sectors can transform the Indian economy into a powerhouse.

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