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The Political Economy of the Revenue Deficit

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Abstract

A widely accepted hypothesis is that concessions demanded by and granted to vested interests are responsible for the steady decline in the government financial position. We argue that it was rather the supply-side shocks of the seventies combined with the political objective of protecting the poor that were responsible. We support our argument by examining time series of disaggregated government budget data, and the theory of incentives under imperfect information. The latter suggests that price controls in the presence of cost shocks would lead to systematic incentives to lower quality and investment. And therefore lower tax capacity and the ability to reduce poverty in the future. We illustrate these mechanisms at work in power, telecommunications, railways, roads, education, and tax collection. The analysis is hopeful, however, because if this causal mechanism were understood, a concerted attempt to rationalise user charges and improve quality would be more acceptable. The process would be helped by macroeconomic policies that keep interest rates low and prevent exchange rate volatility, while supply side policies keep inflation low.

Key words: cost shocks, user charges, public goods, quality, deficits

JEL Codes: O23, H3

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The Political Economy of the Revenue Deficit

I. Introduction

India has been trying to reduce the fiscal deficit ever since reforms were initiated in 1991, but without much success. It has become necessary to ask why. Strong medicine can suppress a symptom, but a lasting cure is possible only if the root cause is treated. The political economy of India's revenue deficit lies at this root and must therefore be understood.

There has been a large amount of work on the political economy of reforms, but the dominant explanation for the decay in Indian government finances is still Bardhan's (1984) thesis of powerful vested interests each getting concessions such as employment, subsidies, free loans, and cheap public goods. Farmers, traders, industrialists, bureaucrats, and unionized workers each benefited. If this were the whole story government consumption would be rising as a ratio of the Gross Domestic Product.

But examining disaggregated data on government budget presents a few surprises. Government consumption expenditures as a ratio of the GDP were almost the same in the mid-nineties as they were in the mid-seventies. The component of current expenditure that has risen is interest payments.

This suggests an alternative view of the political forces that have impinged on budget making. The political necessity of lowering poverty¹ combined with cost shocks initiated the decay in government finances. It is well known that the Indian economy faced major supply shocks, such as a rise in oil prices and fall in agricultural output, in the seventies. Political imperatives in a poor democracy made it difficult to raise user charges for public goods. The result was increasing cross-subsidization, where industry and the well off were to pay for provision of services to the poor. This is in itself a laudable social objective (apart from catering to dominant vote banks). But it had built-in incentives leading to a fall in quality and in investment, as this chapter

shows. Since capacity constraints soon appeared, poor quality, time delays, and controls, were used as rationing devices. It became increasingly optimal for the rich to opt out of the system. Private alternatives appeared to service them. The government lost revenue, and the poor suffered non-monetary costs. A humane society requires cross-subsidization, but that is viable over the longer term only if the revenue budget is balanced and other economic criteria met. The cross-subsidization chosen was unsustainable as interest payments on borrowing made to meet shortfalls in revenue began adding on to deficits. My argument is different from the common one that public consumption must be cut when supply shocks occur. It is not consumption that creates problems as much as the perverse incentives that get entrenched when relative prices are not allowed to adjust after cost shocks. These harm the quality of provision of public services and the revenue raising capability of the government. The irony is that alternative policies were available to protect the poor. In section 4 I explore some of these.

This analysis of political economy is more hopeful since if powerful vested interests exist, there is no reason why they should moderate their demands. But the user charges required to improve the revenue deficit will be more acceptable if the adverse role of pricing distortions in the face of cost shocks is recognized. Poor quality is as much a cost to the poor as high prices. There is evidence that people are willing to pay higher prices for better quality (see section 4). Politicians and bureaucrats are also victims of adverse circumstances and policy choices. They suffer from emptying coffers and poor reputations. Reorganization can deliver better quality public service if the reasons for the decline in quality are recognized and steps taken to reverse them. The latter will bring the well off back into the revenue net, and make feasible the public investment that can sustain a virtuous cycle of improvement. Because of the accumulated debt, a viable long-term lowering of revenue deficit will require complementary macroeconomic policies, such as low interest rates and a managed exchange rate. In transition the fiscal deficit may have to rise to finance the required hike in investment. Some results can be achieved even without investment, as the latter requires finance and time. Just as cost shocks initiated the rot, improved

¹ A very popular slogan of the Congress Party in the seventies was “garibi hatao”—that is, remove poverty. A number of policies were instituted to protect the poor, but unfortunately most of them were difficult to administer and created distortions.

technology available today can be harnessed to lower costs over a wide spectrum for the Indian economy. Falling international oil prices constitute a reverse oil shock, which will also help.

The chapter is organized as follows. Section 2 examines historical evidence. Section 3 then uses theories of incentives under imperfect information to understand the motivations and actions of agents that lead to observed outcomes. Section 4 presents some of the specific outcomes of this interplay of motivations and then discusses policy that is politically feasible and can eventually reduce the revenue deficit. Section 5 concludes.

2. Is the Government Profligate or is it Cash Starved?

In this section, budget data², starting from the seventies, are divided by GDP at market prices, in order to reveal trends. Tables 1 to 4 present the ratios for selected years, while the trends from 1970-71 can be seen in figures 1 to 8. The diagnostic table 1 allows us to clearly identify the pathology. The diagnosis is confirmed using more detailed data and time series analysis.

Table and figure 1 show that the savings of government administration turned negative in the early eighties, while those of departmental enterprises and non-departmental enterprises increased marginally in the eighties. The latter two could not compensate for the decline in the first component. Also capital formation in all three was falling by the late eighties (table 1 and figure 2). Compensation of employees, as a percentage of GDP increased steadily and in 1987-88 exceeded its 1970-71 level by about 2.5 per cent; but it began to fall after that (table 1 and figure 3). The ratio of net purchase of commodities and services in 1995-96 was the same as in 1970-71. Vested

² The public sector comprises (i) government administrative departments, (ii) departmental enterprises like the railways, posts and telegraphs, other communication enterprises, and other departmentally run enterprises, and (iii) non-departmental enterprises (a) financial and (b) non-financial, which are wholly or mainly government-owned companies and public corporations. Administrative departments including defence services are said to constitute the general government comprising central and state governments, union territories, and all layers of local bodies and panchayati raj institutions. Administrative departments include those of central and state governments as well as local bodies. The data are the most updated available in the NAS, CSO.

interest groups in government were not able to maintain their consumption and the government cut back on investment.

Table 1: DOMESTIC SAVINGS BY TYPES OF INSTITUTIONS AT CURRENT PRICE

Year	Domestic savings by Pub. Sector			Capital formation by			Compensation of employees in Govt. adm.	Net purchase of commodities and services in Govt. adm.
	Govt. Adm.	Dept. Enterprises	Non-dept. enterprises	Govt. adm.	Dept. enterprises	Non-dept. enterprises		
1960-61	2.2	-	0.4	-	-	-	4.7	1.9
1970-71	1.3	0.7	0.9	8.1	11.7	18.8	5.5	3.3
1971-72	1.1	0.7	0.9	9.3	12.4	17.9	5.8	3.9
1972-73	1.0	0.6	1.0	12.5	14.0	17.9	5.7	3.6
1973-74	1.5	0.3	1.1	11.2	10.7	18.8	5.3	3.0
1974-75	2.0	0.3	1.3	11.1	11.0	23.0	5.5	2.8
1975-76	2.7	0.5	1.1	10.1	11.6	31.3	5.9	3.4
1976-77	2.5	0.8	1.7	8.4	11.8	30.6	6.0	3.6
1977-78	2.2	0.8	1.4	6.3	11.9	21.5	5.8	3.3
1980-81	1.9	0.2	1.4	10.6	11.4	19.3	6.6	3.1
1984-85	-0.1	0.3	2.6	11.0	12.2	28.0	7.2	3.4
1990-91	-2.8	0.7	3.1	7.5	7.9	23.2	8.0	3.7
1991-92	-2.1	0.7	3.3	8.1	8.0	24.2	7.9	3.4
1992-93	-1.9	0.7	2.8	7.8	8.4	20.8	8.0	3.2
1993-94	-3.3	0.9	3.0	8.2	9.5	21.8	7.7	3.5
1994-95	-2.6	1.0	3.4	7.3	8.0	21.3	7.3	3.2
1995-96	-2.4	1.0	3.3				7.5	3.2

Source: EPW Research Foundation, 1996, Table 4B, 12, 14.

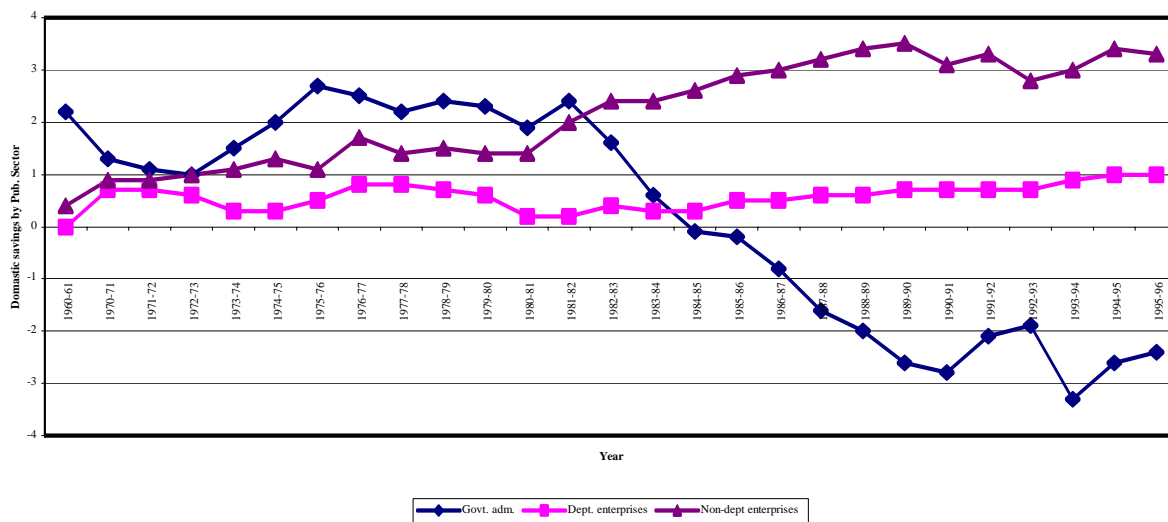


Figure 1: Public Sector Savings as a Percentage of GDP

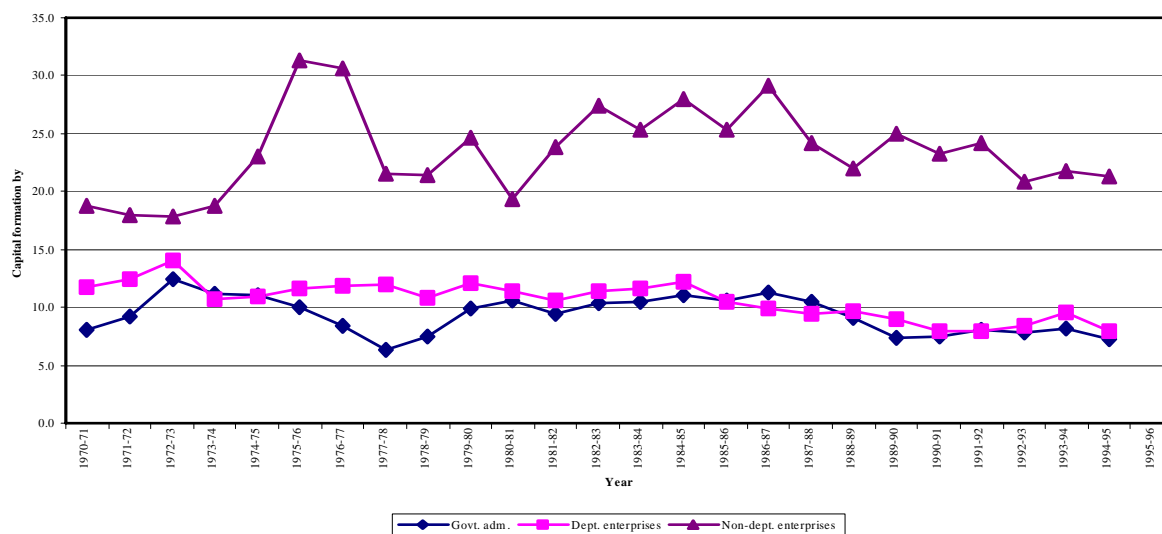


Figure 2: Public Sector Capital Formation as a Percentage of GDP

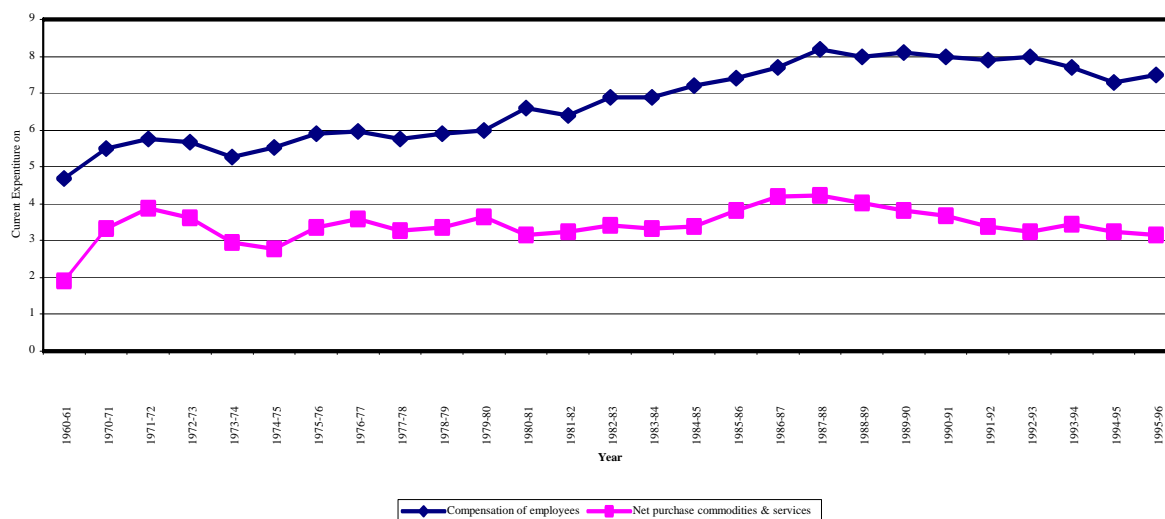


Figure 3: Public Sector Expenditure as a Percentage of GDP

Finding 1: Thus it can be concluded that a steady worsening of government finances forced a fall in the share of capital formation and employee compensation in the public sector, by the late eighties. The ratio of purchase of commodities and services to GDP in 1995-96 was about the same as in 1970-71.

Government administration shows the major pathology; therefore this is now examined in greater detail. Although savings were negative, current expenditure in general administration rose in the eighties (table 2 and figure 4); it was financed by borrowings. But both current and capital expenditure on health and education fell

from the late eighties (figure 5). Capital expenditure on the latter two categories was only 0.14 per cent of GDP in 1994-95; it was always largest in general administration.

Table 2: CURRENT AND CAPITAL EXPENDITURE IN GOVT. ADM.

Year	Current Expenditure				Capital Expenditure.			
	General Adm	Defence	Health	Education	General Adm	Defence	Health	Education
1970-71	2.05	2.85	0.44	2.27	0.34	0.02	0.05	0.06
1971-72	2.33	3.41	0.50	2.33	0.26	0.01	0.04	0.06
1972-73	2.33	3.34	0.50	2.51	0.38	0.01	0.04	0.08
1973-74	1.97	2.81	0.45	2.16	0.66	0.04	0.03	0.07
1974-75	1.88	2.97	0.45	2.30	0.62	0.04	0.04	0.05
1975-76	2.03	3.28	0.51	2.52	0.57	0.03	0.05	0.05
1976-77	2.17	3.17	0.58	2.60	0.35	0.04	0.07	0.07
1977-78	2.03	2.87	0.59	2.60	0.66	0.01	0.07	0.06
1980-81	2.12	2.55	0.62	2.75	0.27	0.01	0.07	0.08
1987-88	2.52	4.03	0.81	3.42	0.41	0.02	0.08	0.11
1990-91	2.60	3.32	0.77	3.39	0.74	0.01	0.08	0.12
1991-92	2.66	3.07	0.73	3.44	0.42	0.03	0.07	0.11
1992-93	2.73	3.00	0.74	3.41	0.22	0.02	0.06	0.09
1993-94	2.63	3.16	0.72	3.31	0.22	0.02	0.05	0.08
1994-95	3.13	2.88	0.68	3.26	0.23	0.01	0.05	0.09

Source: National Accounts Statistic Of India 1950-51 to 1996-97, CSO (Statement No. 35 in NAS 1997).

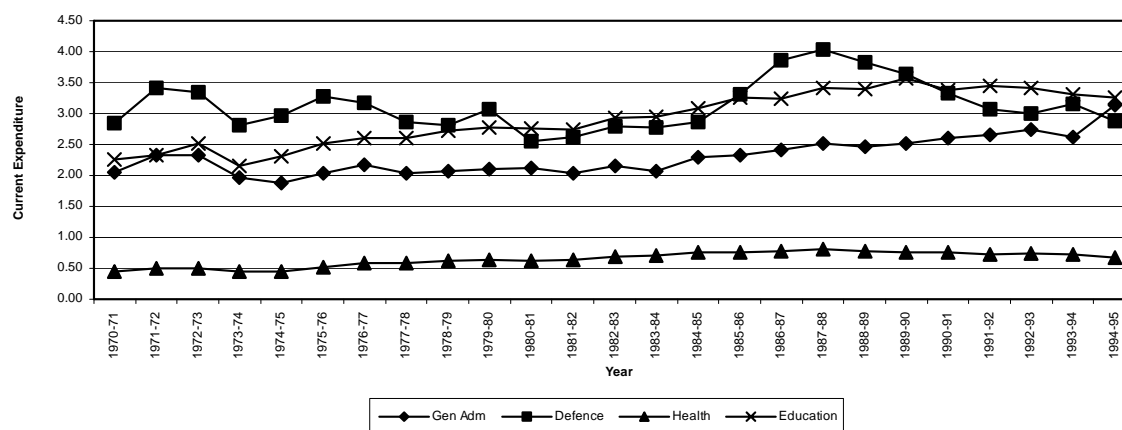


Figure 4: Current Expenditure by Govt. Adm. as a Percentage of GDP

Finding 2: Borrowing was necessary to sustain a rise in the share of current expenditure in general administration in the mid-eighties. Spending on health and education suffered cutbacks in the nineties. The ratio of capital expenditure was always low in these two categories and fell in general administration also by the mid-eighties.

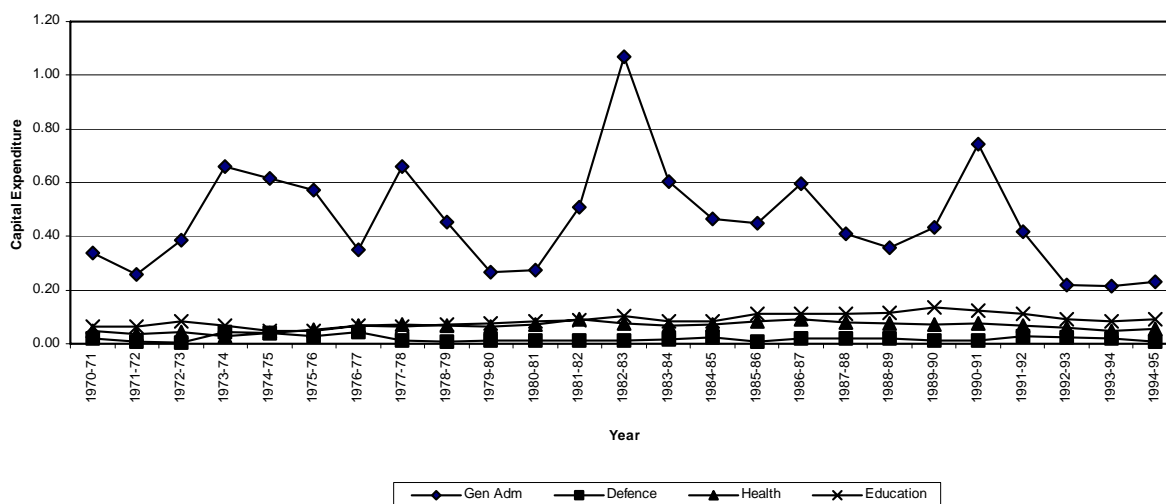


Figure 5: Capital Expenditure by Govt. Adm. as a Percentage of GDP

Since current expenditure includes interest payments, we turn to the income and outlay account of administrative departments (table 3 and figure 6). This gives consumption and interest payments separately.

Table 3: INCOME AND OUTLAY ACCOUNT OF ADM. DEPTS. (GOVT. ADM.)

Year	Consumption Exp.	Interest on public debt	Subsidies	Income from Entrepreneurship and property	Direct taxes	Indirect taxes	Misc. receipts
1970-71	8.81	0.50	0.78	1.33	2.53	8.98	0.38
1971-72	9.64	0.58	0.91	1.40	2.76	9.76	0.59
1972-73	9.30	0.68	1.08	1.25	2.88	10.15	0.29
1973-74	8.22	0.77	1.14	0.88	2.67	9.48	0.24
1980-81	9.62	1.12	2.32	0.68	2.63	12.31	0.22
1984-85	10.53	2.16	3.38	1.00	2.51	13.24	0.39
1990-91	11.54	3.78	3.47	0.75	2.41	14.25	0.39
1991-92	11.26	4.26	3.67	1.42	2.83	14.05	0.35
1992-93	11.13	4.30	2.90	1.08	2.92	13.54	0.47
1993-94	11.11	4.48	2.87	1.03	2.84	12.49	0.53
1994-95	10.52	4.72	2.68	0.86	3.16	12.68	0.84

Source: Various issues, National Accounts Statistics, CSO (Statement 43 in 1996).

Table 3 and figure 6 show that even though current expenditure continued to rise from the mid-eighties, the ratio of consumption fell from 1988-89 and expenditure on subsidies from 1990-91 (figure 6). These figures are for explicit subsidies; it is not known how hidden subsidies, comprising low user charges for a variety of public goods and services, behaved. A government white paper put these at 70 per cent of

total central subsidy. Combined subsidies paid by central and state governments are said to be almost 15 per cent of GDP³. The direct tax ratio improved somewhat, but indirect taxes that comprise the bulk, fell from the late eighties (figure 7). The rise in current expenditure was due to the interest payments on public debt. These have been rising from the mid-seventies, showing the cumulative effect of the cost shocks. The rise accelerated in the nineties, following the freeing of interest rates (figure 6). This, together with the deterioration in the ability to tax, was the culprit that prevented improvement in government finances.

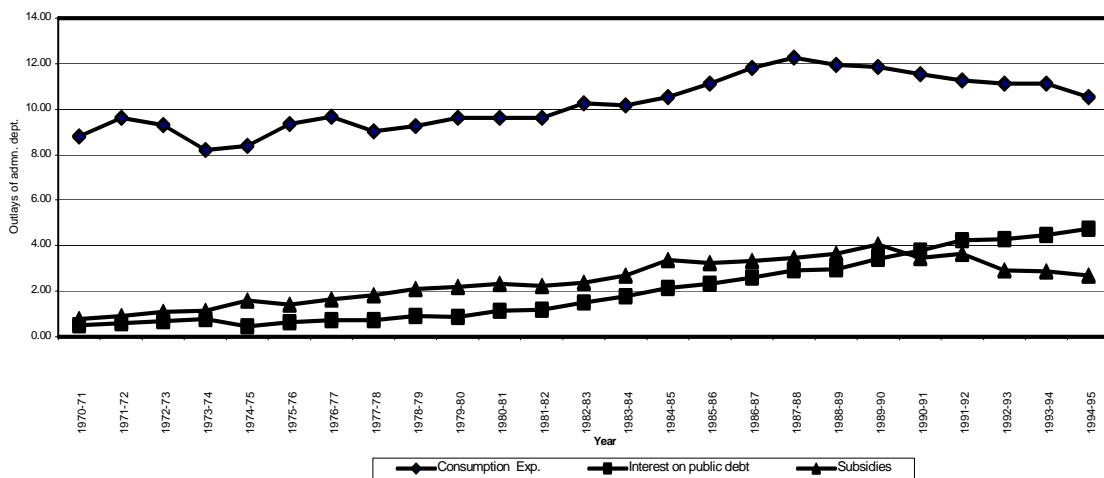


Figure 6: Expenditure of Adm. Depts. as a Percentage of GDP

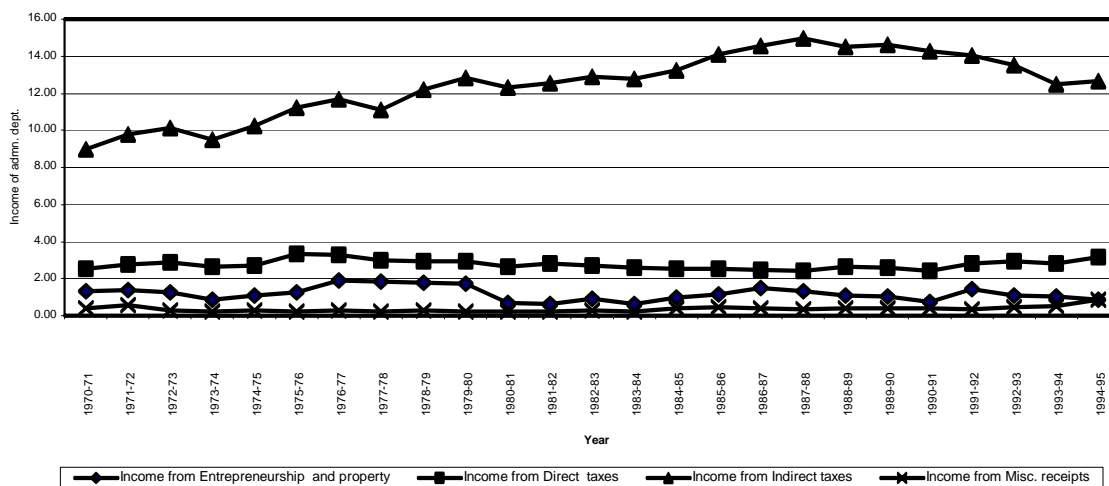


Figure 7: Income of Adm. Depts. as a Percentage of GDP

Finding 3: Since the eighties the government has not been able to fund its current expenditures from current revenues. This led to a cumulative rise in public debt,

³ The figures are from Vinay Pandey (1998) who reports on recent research on subsidies.

interest payments, and the revenue deficit. Although investment has been cut the most, government consumption has also suffered.

Table 4: PRODUCTION ACCOUNT OF NON-DEPTT. ENTERPRISE

Year	Compensation Of employees	Operating Surplus
1970-71	1.79	1.17
1974-75	3.00	1.68
1980-81	4.06	2.23
1984-85	4.63	3.84
1990-91	4.68	4.40
1991-92	4.63	5.21
1992-93	4.65	5.05
1993-94	4.43	5.88
1994-95	4.42	5.76

Source: Various issues NAS, CSO (Statement 47 in 1996).

The large employment in the public sector is often blamed for deteriorating government finances. Table 4 and figure 8 offer some evidence that this is too harsh a judgement. Although the compensation of employees has risen, the rate of increase has been less than in the operating surplus. Here and in Table 1 the ratio of compensation of employees to GDP has been falling in the nineties. Non-departmental enterprises have been the most profitable among government organizations. And the government has been able to moderate wage demands sufficiently to improve profits. The rate of increase in operating surplus has normally exceeded that in wages. Public sector workers have not been powerful enough as an interest group, to protect their share in the nineties.

Finding 4: The ratio of compensation of employees to GDP has been falling in the nineties, and has been stagnating since the mid-eighties while the ratio of operating surplus to GDP in public sector enterprises has continued to rise.

Finding 5: Both current and consumption expenditure of government administration shows a peak in the early seventies, and savings show a trough, coinciding with the severe cost shocks.

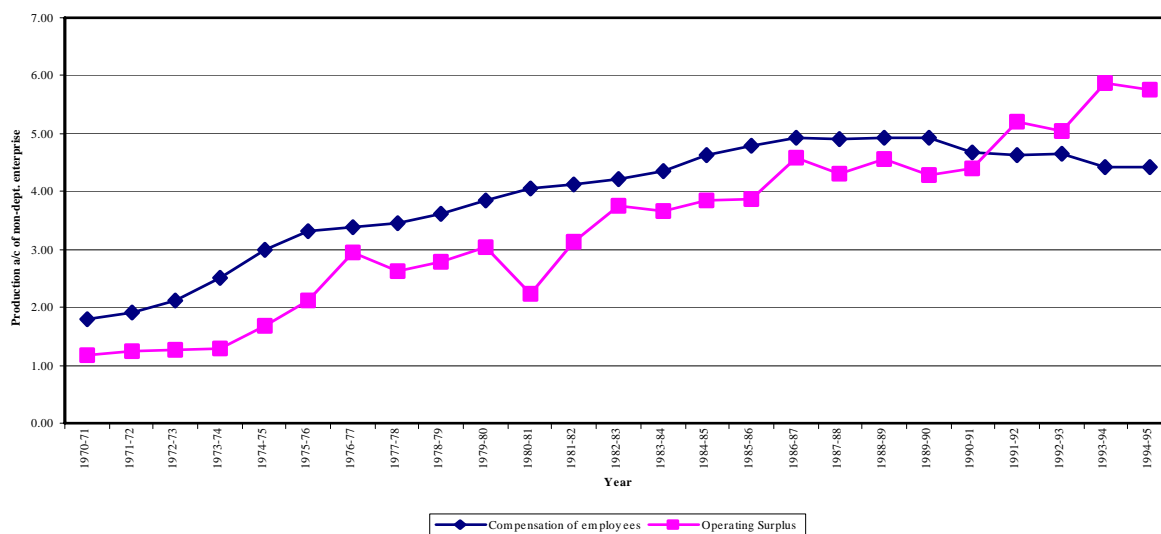


Figure 8: Compensation of Employees and Operating Surplus in Non-dept. Enterprises as a Percentage of GDP

Most categories of government expenditure have fallen implying that vested interest groups are not powerful enough to be fully responsible for the deterioration in government finances. The rise in borrowing after the period of major cost shocks, together with the inability to raise tax ratios, and the widespread fall in the quality of provision of public services, suggests the following hypothesis:

Hypothesis 1: The cost shocks of the seventies triggered off a cumulative decline in government finances.

There is enough preliminary support for this hypothesis in the budget data to justify more comprehensive tests. The rise in interest payments from the late seventies is very clear. Two types of further tests are possible. First, using time series data on government budget series, wholesale price indices, and broad money the direction of causality can be explored. Did revenue deficit raise money supply and cause inflation as is implied by the theory of interest groups? Or did cost shocks raise inflation and therefore revenue deficit and money supply? Causality tests done with bivariate and multivariate variance auto-regressive models provide evidence of the impact of cost shocks and inflation on revenue deficit and money supply. Second, the effects of pricing policies following on the cost shocks can be examined for a number of disaggregated public sector bodies. This is a promising research project for the future.

But meanwhile theory can help us understand why these outcomes occurred.

3. Interventions and Incentives

Officials would like to believe that they are motivated by a desire for the public good, and monetary incentives demean the tradition of public service. There are always exceptions, but for the average bureaucrat the power that substitutes for the market is even more corrupting. Moreover, systematically distorting market signals has adverse consequences. After identifying the trends in the data, theories⁴ that illuminate these outcomes will now be examined.

The provision of government services is put under three heads: general administration, departmental, and non-departmental enterprises. The latter two charge for their products, while the costs of the first have largely to be covered by taxation. It is possible to regard the government as a large multi-product public service provider (PSP). The voting process determines the ownership of this PSP. Since the poor have the largest votes they have to be satisfied for the incumbent to remain in office. Therefore selling its products at an affordable price is a major objective of the government in a country with a large population of poor.

In itself this is a valid social objective. But in the face of the severe cost shocks of the seventies, the way it was implemented led to a distortion of the incentives of the government to invest in improving the quality of public services. One consequence was a decline in its ability to collect taxes.

The objective of providing government services at affordable prices led to cross-subsidization both in the provision of specific products and across government functions. The famous Ramsey-Boiteux rule derives optimal cross-subsidization by maximizing social welfare subject to a budget constraint. It implies that prices should differ from marginal cost but the gap should be inversely proportional to elasticities of demand. For example, because the poor have a higher elasticity of demand, they should be charged lower prices. The rule can take account of other objectives in social

⁴ Laffont and Tirole (1993) is a thorough treatment of incentives in regulation. Jha (1998) is a good up to date text that brings out the implications of new work on incentives for public economics.

welfare such as redistribution and the provision of incentives, and has been generalized into the theory of optimal non-linear tariffs. But since the government budget deficit has been steadily deepening it implies that these theoretical principles have not been followed. The budget constraint has been violated; prices have not been derived from first principles. Moreover if, because of cross subsidization, the price in any sub-market exceeds cost, or if new technology lowers cost or breaks a natural monopoly, competitive entry occurs. Government revenues from these sub-sectors fall further.

There are two natural extremes in pricing rules that have opposite effects on the incentives of a firm to lower cost or improve quality. The first, a price cap, offers high powered incentives since the residual profit share lies with the firm. The second, rate of return regulation, provides the cost of the service so there is no motivation to decrease costs. Moreover as profits from improvements do not stay with the firm incentives are low powered. In designing an incentive scheme there is always a trade-off between rent extraction and providing incentives for additional effort. A price cap if low enough extracts all rent, but can still motivate a decrease in costs. But it reduces incentives to invest and improve quality. Costs rise with quality so that low-powered incentives are required for the provision of quality. Similarly there is a disincentive to invest in the presence of price caps because sunk costs made for investment may be expropriated. When the budget is not balanced it implies that all the PSP's rent is being extracted.

This is the general theory of cross-subsidization and incentives for a regulated firm. But it can help us understand the state of government finances in India. In the face of the cost shocks of the seventies, and the social objective to protect the poor, the government functioned with price caps for much of the products and services it provided. But where it had monopoly power and was servicing the rich, prices were raised much above costs of production. There was extensive cross-subsidization. The same principles were applied to tax collection. Large groups of people were exempt from income tax, for reasons of equity or cost of collection, and rates were raised steeply for the rest. Consequently the tax base is very low; moreover evasion became pervasive. As the rich found alternatives, the cross-subsidization was not sufficient to cover costs. General revenues did not even cover consumption. Budgetary support

was insufficient to prevent the deterioration in quality that came with the price caps. Poor quality served as a cost that lowered consumption demand. In section 4 specific examples that illustrate the working of these principles are examined.

The analysis in this section leads to:

Hypothesis 2: Price controls in the presence of cost shocks lead to systematic incentives to lower quality and investment in the public sector. This reduces future capacity of the state to tax, invest and provide services.

4. Interventions and Outcomes

Outcomes, in different sectors, illustrate the working of these incentives in response to the mechanisms that were implemented.

Electricity: Charges to commercial users are much higher than to domestic consumers, in addition there is illicit tapping of electricity. Many states give free electricity to farmers. Frequent breakdowns and low voltage have forced the affluent to go in for captive power generation, and state electricity boards (SEBS) are in the red. The rich found ways to deal with the system and the government lost money. As an example, consider Gujarat. In 1996-97, the cost of supplying one unit of electricity was Rs. 1.86; agriculture was charged 21 paise, the domestic consumer 91 paise, and industry 2.34 paise. Cross-subsidization did not cover losses⁵. SEBs in the country together lost Rs 10,000 crore in 1997-98, although 4000 crore of subsidies were provided by state governments. In India the cost of electricity to industry is three times that in France. In developed countries, tariffs are lower for industry than for other consumers, as it costs less to supply power to the bulk high voltage consumers. When industry sought to escape the high charges and poor quality through captive generation, the Gujarat SEB instituted the requirement of a no objection certificate without which an industrial unit cannot set up captive power! Nevertheless the share of electricity sold to industry had fallen from 62 per cent (1950-51) to 35 per cent in 1996-97. The share of agriculture has risen partly because a fixed and low tariff encouraged overuse of agricultural pumpsets. Countrywide the latter consume 20 per cent of total power generated. Although farmers are favoured, unreliable supply

⁵ Information from a lecture given by G.B. Desai of Gujrat SEB, at a seminar at MS University Baroda, March 1998.

makes them unhappy too. In experimental reforms in Rajasthan farmers were willing to pay four to five times the usual tariff for assured quality.

Telephones: International call charges are kept high, to subsidize domestic calls. The reasoning was to maximize revenue and to protect the poor, on the assumption that international calls are a luxury good. But companies formed in America made it possible to call from here and pay abroad. Again, the government loses revenue in spite of its domestic monopoly. New technology is hastening the process. In 1998 the cost of calling America using Internet telephony was Rs 4 per minute but the public sector monopoly charged Rs 75 per minute. The newly appointed regulatory authority, TRAI, is planning to change this: charges for international and inter-state calls are to be lowered, and those for local calls raised. It is also planned to raise fixed rental charges. The idea is that this recovers costs while utilization is stimulated by lower marginal charges. But in a poor country many potential consumers may not be able to afford high hook-up charges. A consumer organization called Grahak Hakka Parishad is protesting these changes on the grounds of the additional burden they impose on the less well off. A possible solution is to provide more public call booths for them. There are arguments that MTNL is a government monopoly that makes fat profits at the expense of the consumer. This process clearly demonstrates the political economy of price setting: a rise in price is resisted both to protect the poor, and to prevent the government monopoly making excessive profits.

Railways: The railways have ostensibly followed average cost pricing (covering costs), but the annual contribution to the Depreciation Reserve Fund (DRF) has been used to present a falsely reassuring picture, since it was often less than it should have been. But from the Fifth Plan the DRF was included in Plan resources, and the railways had to pay dividends on withdrawals. Their ability to use this internal resource for badly needed investment fell. At the same time budgetary support, as a share of total resources available to the railways, fell from 34 per cent in the First Plan to 15 per cent in 1993-94. Other economic criteria have been flouted. Freight rates have been raised to subsidize passenger travel. The railways have been steadily losing customers to diesel trucks. Since diesel is also subsidized this deals a double blow to government revenues, apart from raising pollution levels and freight costs. The average rate per passenger kilometer was raised from 4 paise in 1980-81 to 15

paise in 1991-92, but the rise in the average rate per tonne kilometer was more over the same period (from 10.5 to 35.1 paise), although the demand for the latter category is more elastic⁶. There is great scope for lowering costs and raising revenue by adjusting activities to different categories of demand. The 1998 rail budget made a start at lowering cross-subsidization by concentrating fare increases on passenger traffic.

Education: The low fees and salaries in higher education, and pressures due to insufficient expansion in facilities, have led to great deterioration in standards. Teaching in Junior colleges in Mumbai, for example, is almost entirely usurped by coaching classes that have better teachers and equipment. They charge huge fees that are willingly paid, while the colleges wither away. This is also responsible for the brain drain as more students go abroad for studies and then settle there; moreover students pay enormous sums to foreign universities for a decent education. For example, in Delhi University annual college tuition fees have remained at Rs 180 for the past five decades; a student pays less than 5 per cent of the total cost of his education. But an attempt to raise tuition fees by 200-300 per cent, in response to a 20 per cent cut in UGC grants, provoked widespread student agitations and had to be withdrawn. Other institutions have succeeded with a more gradual rise in fees; acceptability demands that such moves are linked to a perceptible improvement in quality, and an equitable sharing of burdens. But reasonable need-based subsidies in education have a role in the future. Cheap technical education has played a large role in developing the labour skills, such as in computer software, that India is becoming famous for.

Irrigation: The subsidy for canal irrigation rates is almost 100 per cent. At the same time the cost of providing water through public canals has risen steeply⁷ and quality of supply has fallen. Farmers are willing to pay higher rates for irrigation that is more flexibly adapted to their needs; they have shown this by switching to tube-well irrigation even though they have to pay for the latter. The proliferation of private tube-wells (run on subsidized electricity) has adverse externalities, such as lowering

⁶ See Sriraman (1997) for more data on these issues.

⁷ Dhawan (1997) calculates that the cost per hectare of canal irrigation at constant prices increased from Rs 488 to Rs 608 over 1980-81 to 1992-93. The data on Bengal come from the field trips made by Vikas Rawal in the course of his Ph.D. on irrigation in West Bengal.

of the water table. Total consumption of groundwater resources has risen from 4 million hectare-metres (MHM) in 1970 to 54 MHM in 1998. It is expected to exceed the recharge level of 67 MHM by 2005. In nineteenth-century Gujrat wells were designed to catch rain and flood water, so that water remained a renewable resource. Community, rather than individual, management prevented overexploitation. Such practices need to be renewed. Today subsidies tend to be captured by the rich. In West Bengal erstwhile landlords have become water-entrepreneurs. They pay a fixed electricity charge of Rs 1500, and no sales tax, and then sell water in the surrounding area. It is true that the water rates are sometimes regulated by panchayats, and the improvement in availability of electricity from the mid-eighties has coincided with a large rise in agricultural production. Both electricity and water are essential infrastructure but the only way to ensure their long-term supply is by pricing them to cover costs and discourage overuse; restructuring and decentralizing delivery mechanisms.

Roads and State Transport Units (STUs): Roads constitute a major component of the transport sector and are expected to carry 80 per cent of passenger traffic and 50 per cent of goods traffic. Out of a total share of transport in the Eighth Plan outlays of 13 per cent, the share of roads was 23.6. The road network has been expanding steadily but remains inadequate both in terms of quality and requirements. The chronically ill STUs offer a copy book illustration of the predictions of theory. Financial losses of STUs in 1996-97 were 1414 crore, but fare hikes were withheld for political reasons and concessions given to different categories amounted to Rs 486.12 crore. Although personnel costs increased by 10.95 per cent and material costs by 11.2 per cent, only 17 of 70 STUs revised fares. Personnel costs account for 46 per cent of revenues and material costs 36 per cent. Retrenchment is ruled out. There are other inefficiencies responsible for high cost and poor quality. Although overall fleet utilization was 88 per cent it was as low as 14.7 per cent in Bihar. But privatization is not the answer. The share of STU buses in total buses has fallen from a peak of 48.2 per cent in 1980 to 26.3 per cent in 1995; but the private transport that has replaced it is ill-regulated, hazardous, and ignores non-profit making sectors. There are externalities in the provision of cheap and efficient bus services, since they reduce dualism and draw

remote areas and the poor into the modern economy. Revitalized STUs have to play a major part in this⁸.

Taxes: The belief that large classes of Indian people were too poor or too deserving to pay taxes has led to such a narrow tax base that the Indian tax/GDP ratio (about 17 per cent) is one of the smallest in the world. The average ratio is about 31 for industrial economies and 18 for developing countries. Because a large part of the economy is in the unorganized sector where returns are not routinely filed, it is believed that Indian GDP is 60 to 100 per cent underestimated. In that case the tax/GDP ratio will be even smaller! Low tax collection, low user prices for public goods and low returns on public investment severely limit the services the government is able to offer.

These examples repeatedly demonstrate the picture of prices held constant in the face of cost shocks; coercive but ultimately unsuccessful attempts at cross-subsidization; budgetary losses combined with falling investment and quality. If the consequences of holding prices constant in the face of adverse cost shocks are understood, clear implications follow for policy. Moreover, the acceptability of these changes rises, especially if alternatives are adopted to protect the poor.

Policy: In public goods, where there is a tight link between payment and use, a gradual rise in user charges will be accepted, if quality is raised simultaneously. Only sustainable cross-subsidization should be undertaken; attention must be paid to relative demand elasticities as well as redistribution objectives. Institutional reorganization will allow services to be varied to offer consumers a menu of price-quality options.

Joskow (1998, pp54) suggests that for developing country infrastructure 'a fixed price/price cap mechanism with quality of service and performance norms and specific provisions for evaluation and adjustment over time is likely to provide the most effective...approach in many cases'. The fixed prices we have followed in India need to be adjusted to ensure quality and investment, but maintain pressures to decrease costs. The latter is very important because the coercive ways used to

⁸ Vaidya (1998) reports on research done at CIRT, Pune.

maintain cross-subsidization have bred suspicion of the government as an extortionary and inefficient organization. It does exploit monopoly power in certain areas, but in the aggregate, has not been able to recover costs. If argument here regarding incentives is correct, in the restructured framework enhanced revenues will be used productively, and will not merely raise government consumption. Apart from price caps, one way to lower costs is to invite competition from private parties. But the latter also need to be regulated to ensure that they maintain safety standards and service some uneconomic sectors as well.

Non-discretionary and non-distorting methods of protecting the poor should be adopted. Among these are increasing the productivity of agriculture and maintaining the price of basic foods in line with average purchasing power. Food prices serve as a standard for all other prices in a poor country. Historically, poverty has risen in the short run and inflation in the medium run with food prices. Countries that have avoided rising inequality in their developmental periods (for example the USA) have been those with plentiful and cheap supply of food. Cheap food is especially important for a country with high population density. Managing the nominal exchange rate together with gradual agricultural liberalization can achieve the twin objectives of giving incentives to farmers and maintaining basic food prices in line with average purchasing power (Goyal 1998). Since food price enters all prices this is one nominal price that needs to be managed. In an inflationary context, the distinction between relative and nominal prices needs to be carefully understood. This policy set offers a substitute that can avoid the huge transaction costs and poor targeting that have been documented with the working of the public distribution system (PDS) (Dev 1998). It has worked more as a price support for farmers than as an income support for the poor. Employment guarantee, and other self-targeting schemes, and community homes for destitute groups are also substitutes for the PDS. General subsidies for food or public goods such as education should be given through a coupon system of entitlement.

Gradually filing tax returns should be made compulsory for all working population, although all will not be taxed. Linking rights and entitlements to filing tax returns and keeping tax rates low will encourage this. The electronic media can be used to instruct, enable, and facilitate filing in spite of illiteracy. Computerization will make it

possible to build up a database on tax assesses. Eventually it may be possible to even have a coupon-based negative income tax⁹, one of the cleanest ways of alleviating severe poverty.

After twenty-nine years America has a balanced budget. The chief feature of fiscal reform has been the systematic removal of incentives for wastage. For example, there was a shift from matching to block Federal grants for state welfare payments; the former motivated the states to overspend. In India awards to states based on filling trend non-plan revenue gaps, have rewarded fiscally profligate states. Transfers from the rich to the poor states can continue by having higher block grants for the latter; but an incentive component can be added linked to fiscal prudence and efficiency. A percentage of the transfer should depend on state GDP per capita growth in the last year. This will enhance healthy competition among states. At the same time global norms should be evolved to prevent unhealthy competitive lowering of tax rates to mobile factors such as capital and make harmonization of tax and user charges possible. Allowing states to tax services will improve their revenue raising capabilities.

Both governments and markets are needed. Either one has serious lacunae without the other. The systematic removal of discretionary controls will remove some of the disincentives that have corroded and corrupted government. The rationing required if prices are kept low invites corruption. But, as has here been argued, some positive incentives are also required to improve quality of public goods. There is ongoing debate on structures that lead to good governance. Bureaucracies have multiple agents and principals, often pulling in opposite directions. Dixit (1996) has suggested that a structure in which each principal offers a positive incentive, without simultaneously offering disincentives for other tasks the agent has to carry out, gives good results.

⁹ Wagle (1998) estimates the cost of giving supplemental income to raise the poor above the poverty line to be Rs 45,700 crore a year; this is about 50 per cent of the central government's tax revenue. It can only be implemented in phases, and would have to be tied to computerization that makes available indirect sources of information on income, such as inputs and consumption, and allows an expansion of the tax base. This would minimize conflict over tax assessments. It should be in the form of entitlements to health care, education, and food to improve earning power. If it is less than Employment Guarantee Scheme wages it would preserve incentives to work and discourage long-term dependence. At last the State would be able to redeem promises made in articles 39 and 41 of the Constitution, that guarantee the right to work, to education, and to assistance in case of disability. These were included in the Directive Principles of State Policy, but were not made judicially enforceable since at that time they were deemed economically infeasible.

Discretionary checks politicians had imposed acted as a disincentive on the bureaucracy's willingness to meet the demands of the public.

But past choices have left us with a high revenue deficit and public debt that has to be lowered, without harming growth. There are ways to do this. First, reorganize to improve quality along with a rationalization of user charges. Second, raise public investment in infrastructure and in human beings; borrowing if necessary in transition, using innovative financial instruments. This is viable because it will raise tax prospects in the future. Credit-rating agencies will forgive a rise in fiscal deficit if the revenue deficit falls and growth is high. Third, keep interest rates at foreign levels. This will lower Indian interest rates, prevent exchange rate volatility, and help the government borrowing programme. Fourth, use supply side policies to keep inflation low. Low interest and high growth rates are the fastest way to reduce the debt GDP ratio.

5. Concluding Remarks

In Greek plays tragedy was never purely the outcome of fate; human motivations entered richly and often fatally. There was no villainy, however, only frailty. In an analogous way, the means used to achieve valid objectives amplified the exogenous shocks of the seventies. It was doubly unfortunate because there were no villains; players often had the best of intentions. The controls and corruption that resulted were not inevitable or intrinsic. Markets are required not to free greed but to free the individual, and if freedom is then used to develop character rather than self-indulgence, greater market incentives will not give a further boost to corruption.

Better alternatives are available to achieve a just society. Understanding the cause for the pervasive decline in quality will make a reversal easier. A pricing policy of public goods that provides incentives to increase quality and investment while lowering costs will be more easily accepted. It will then be possible for political parties and state governments to come together and act on this platform. The process would be helped by macroeconomic policies that keep interest rates low and prevent exchange rate volatility, while supply side policies keep inflation low. A correction of the perverse

incentives that have corroded the system is a dramatic reversal that can turn tragedy into prosperity.

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