



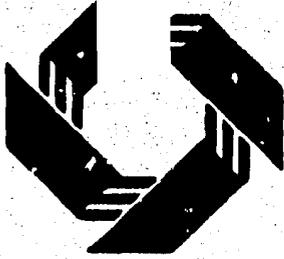
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The Role of Public Enterprises in the National Economy

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Public sector enterprises (PSEs) continue to play an important role in many developing economies, though they are frequently poorly managed and contribute to fiscal deficits. The debate about privatisation typically compares the efficiency of PSEs with comparable private firms, but the more interesting question is why in some countries both public and private firms are efficient, while in others both are inefficient. The paper argues that the key to successful development is the creation of future-oriented institutions to compensate for the critical missing market for future output, and this in turn requires the state to commit itself to ensuring secure title to future returns. If the private sector lacks confidence in its title the state may need to finance investment while establishing its reputation. The paper examines the evidence from Korea, India and Eastern Europe, discusses the appropriate boundaries of the state, and the management of PSEs.

The Role of Public Enterprises in the National Economy

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EXECUTIVE SUMMARY

Public enterprises are state-owned production units that market their output, and are thus directly involved in the market process. Their existence raises the fundamental question of why they are in the public sector, and more generally, where the boundaries between the public and private sector should be drawn. Until recently it was taken for granted that the state had a central role to play in accelerating development in LDCs, and even now the evidence suggests that it not so much the size of the public enterprise sector but its tendency to contribute to fiscal deficits that is of concern. This suggests that public sector enterprises (PSEs) earn low rates of return, either because of inefficient management and/or pricing. What determines the success of PSEs and how does this bear on the argument for privatisation?

The paper briefly surveys recent developments in four areas that bear on these questions, to suggest a new and fruitful synthesis. The first area is the quantitative history of long-run growth, where the emerging consensus is that resources, technology and comparative advantage by themselves are insufficient to account for the divergence of development experience over the past century or so, and that 'institutions determined both the speed and pattern of development'. The second area, that of the new institutional economics, observes that textbook markets where fully informed agents can undertake any desirable transaction are largely absent, notably those for the future sale of goods. In such cases, alternative institutions are required and may emerge, such as firms, banks, insurance companies, mortgages, debt, equity capital, and the like. These are in turn based on contracts (either explicit or implicit), that provide incentives for performance and attempt to reduce the inefficiencies arising from asymmetric information. This branch of economics is better placed to ask what is required if resources are to be assembled from diverse owners and allocated to derive the benefits of concentrated control, and can then compare the efficacy of alternative institutional solutions to that problem, in particular, private capitalism, whether or not regulated, and state ownership.

The third and most recent development to grip economics is the attempt to understand and advise on the massive systemic changes under way in the formerly socialist countries of Eastern Europe. Finally, economists are becoming increasingly aware that economic policy is not a simple outside force acting exogenously on the economic system, but is in large measure endogenous, and therefore needs to be explained and understood as part of the wider process of change and development. To take an obvious example, why are *both* public and private enterprises in Korea so much more efficient than in India? Recent developments in political economy suggest that the important question is not about the *extent* of state intervention, but its *quality*. Rodrik argues that state intervention works quite differently in

'autonomous' and 'subordinate' states. In the former the state is able to credibly commit itself to future actions, and other agents respond appropriately, while in the latter the state cannot so commit and in turn has to respond to the actions of private agents.

The paper then argues that the role of the state should be one of creating the right institutions to support efficient private investment, and where necessary, public investment. The World Bank's recommendations to 'get the prices right', 'adopt market friendly policies', 'pursue outward oriented trade policies' are argued to be aspects of the more fundamental need to create future-oriented institutions to compensate for the critical missing markets for future output. The key to economic success is government commitment to the efficient future management of the economy to convince investors that they will enjoy secure title to profits if successful, combined with a price system that ensures the coincidence of private and social profit. The key task is to create future oriented institutions to ensure this, together with a reputation for rewarding efficiency and penalising failure. Autonomous states, such as Korea under Park, achieved this, while subordinate states, like the former socialist economies, failed. In a future oriented environment, both public and private enterprises are likely to prosper; without this environment, neither will.

Regulatory capture is more likely with public than private enterprise, as is inefficient control over prices and investment, both arguing for the greater efficiency of enterprises in the private than public sector. However, if the state has not created a reputation for efficient future oriented regulation, then public investment may be the only alternative. Ensuring that it competes on equal terms with private competition and does not deter entry is one way of building a reputation for efficient management, as is convincing foreign firms to invest.

The paper contrasts economic policy in Korea, India and Eastern Europe, and discusses the problem of creating credible policy commitment. Until the government has created a reputation for stable, rule-based and autonomous regulation, then there may be little option but to create public utilities (such as electricity, telecoms, water) as public enterprises (and this is typically what we see in countries where such utilities were not created in the heyday of 19th century capitalism). One of the arguments for subsequently privatising such utilities is that it forces the government to devise stable, rule-based and autonomous regulatory agencies. Even if they remain in public ownership, the guiding principle is to ensure that they contribute to private development rather than placing a burden upon it, by achieving production efficiency, efficient prices, and financing their own investment as far as sensible out of retained profits. The main task of the regulatory agency charged with monitoring their performance will be to establish a reputation for impartiality and consistency in monitoring, and rewarding performance and penalising failure, if necessary by liquidation. In short, the emphasis needs to be placed on what agents will expect of the future rather than what is to be done right now.

The Role of Public Enterprises in the National Economy

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Public enterprises are state-owned production units that market their output, and are thus directly involved in the market process, unlike the state provision of roads, defence, law and order, which are provided, not marketed. Their existence raises the fundamental question of why they are in the public sector, and more generally, where the boundaries between the public and private sector should be drawn. Until recently few development agencies raised such questions - it was taken for granted that the state had a central role to play in accelerating development in developing countries, even when there were concerns about the efficiency of the public sector (World Bank, 1983). The debt crisis prompted international agencies to look more carefully at public sector deficits, and they expressed concern at the extent to which public enterprises contributed to those deficits and increased public and foreign debt because of poor profitability (World Bank, 1988; ADB, 1988). Section 1 summarises the evidence for public enterprises in Asia.

The decade of the 1980s also saw the rise of conservative ideologies in the United States and the United Kingdom, that pressed for tighter limits on the power and extent of the state. Under Mrs Thatcher, the United Kingdom articulated and then implemented the most coherent programme of privatisation of public enterprises in the developed world. The collapse of communism in Eastern Europe and the former Soviet Union led to ambitious political programmes of rapid privatisation, in order to make permanent the change from the old communist Soviet-type economic system to a market economy with well-defined private

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** The revisions have been facilitated by the helpful comments from Don Sillers of USAID, and responses to a presentation to the Brown Bag Series at IPR on June 10, 1992. A brief summary of the discussion is given in the Appendix to this paper. An earlier version of the paper is being published under the same title in the *Asian Development Review*.

property rights and private ownership of the means of production. State-ownership and central planning have had a poor press and it is now necessary to think of cogent reasons for placing or keeping an enterprise in the public sector. Section 2 summarises recent theoretical developments which bear on the role of the state.

Section 3 points to the centrality of 'future-oriented institutions' for successful development. The main task facing late industrialising countries is to induce investors to acquire existing knowledge and knowhow from frontier countries, and then to finance the investment (in physical and human capital) to embody this knowledge. The main problem lies on convincing investors that such investments will be privately profitable and that they will enjoy secure title to the future profits. This requires a credible commitment by the government to the efficient future management of the economy, as well as support for such institutions as property rights, banks, predictable access to foreign markets at sensible exchange rates, and the like, all of which can be summarily described as efficient future-oriented institutions. These should reduce the avoidable risks of investment, and specifically the temptation to seize the fruits of that investment once the costs have been sunk and can no longer be recovered. If the state is sufficiently committed to the future, and creates such institutions, then both public and private enterprises will perform efficiently; if not, then neither sector is likely to do well.

The need for a clear commitment to the future is likely to be most evident in capital intensive network industries where the network creates a natural monopoly: electricity, telecommunications, gas and rail. If the network is privately owned (perhaps as part of the larger industry, as with electricity), then access to and pricing of the network element will necessarily be regulated. The problem is to convince private investors that durable and immobile investments will be allowed to earn an economic rate of return, and that the regulated prices will not be kept low as a way of appropriating the returns. If the private sector lacks confidence that future regulation will be fair, then it is unlikely to invest, and private ownership may be nonviable. It is hardly surprising that these sectors are widely observed to be state-owned. On the other hand where adequate competition is feasible, either domestically or from international trade, then public ownership has no evident advantage, and potentially large costs. Even if the current government is efficient at running such enterprises under state management, there is always the risk of producer capture of the state in its regulatory role as supervisor of the public sector enterprises (PSEs), and it is very difficult to recreate an efficient supervisory framework after this has happened. In addition, public ownership is likely to deter private competition, who would fear unfair competition

from the bottomless pocket of the state. The evidence is that competitive pressure, even more than the form of ownership, is the key spur to efficiency, and policies which directly or indirectly hamper competition therefore have high costs.

The main case for investment in public enterprises is that it is necessary to make up for the lack of private sector confidence in the future rules of the game. Ideally, this period of public ownership should be used as an opportunity for the government to establish the credibility of its future orientation, which, once done, would allow the private sector to take on many of these tasks. But a government that sees the public sector as an alternative to private investment is unlikely to see the need for adequate future reward for efficiency. The argument of this paper is that the fundamental requirement for successful development is the creation of this future orientation, and the best test of the efficiency of public enterprises is the extent to which they are subjected to and support a commitment to this policy. The rest of the paper presents this argument and its implications.

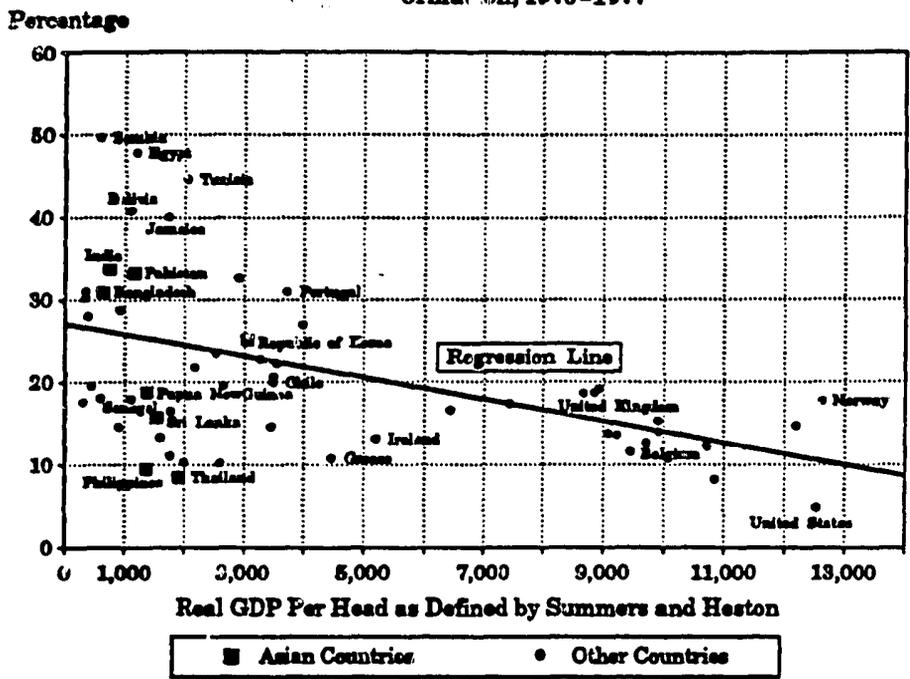
1. Evidence

In 1990, 98 percent of the Asian Development Bank (ADB) lending was to governments or under government guaranteed loans. Over the period from 1968 to 1990, 48 percent of loans were to sectors in which public enterprises are important: energy (22.8 percent), industry and non-fuel minerals (3.7 percent), transport and communications (16.6 percent), and water supply and urban development (8.8 percent) (ADB, 1990). The performance of PSEs will therefore be a prime determinant of the success of project lending by the ADB.

Fig. 1 gives another measure of the importance of public sector enterprises. The figure shows the share of public enterprises in gross fixed capital formation for the late nineteen seventies with the Asian countries identified by black squares.¹ Several features stand out from the figure. There appears to be a negative correlation between public enterprise investment and level of real per capita income.² The Asian countries do not appear to be atypically high by comparison with other developing countries, though the

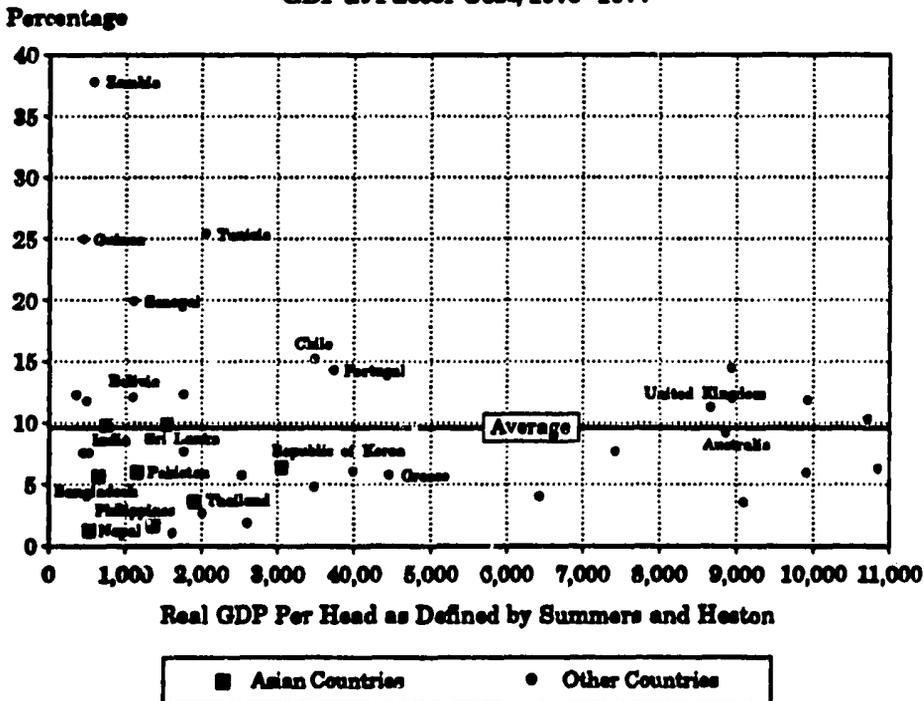
¹ The data for this and figs 2-5 come from Short (1984) and are for the years closest to 1974-77. The level of development is measured along the x-axis by the real GDP per head as computed by Summers and Heston (1988) which corrects for local price distortions, for 1985. Stern (1991) also gives this and other useful cross-country data.

² The best fit is linear, with the predicted share $y = 26.97 - 0.00132 * RGDP$, $R^2 = 0.17$, t -ratio for $RGDP = -3.46$.



Sources: R.P. Shert, "The Role of Public Enterprises: An International Statistical Comparison", in *Public Enterprises in Mixed Economies: Some Macroeconomic Aspects*, ed. R. Floyd, C. Gary and R.P. Shert (Washington, D.C.: International Monetary Fund, 1984); and R. Summers and A. Heston, "A New Set of International Comparisons of Real Product and Prices for 130 Countries, 1960-1985", *The Review of Income and Wealth*, series 34, no. 1 (1988).

Figure 2: Share of Public Enterprise in GDP at Factor Cost, 1975-1977

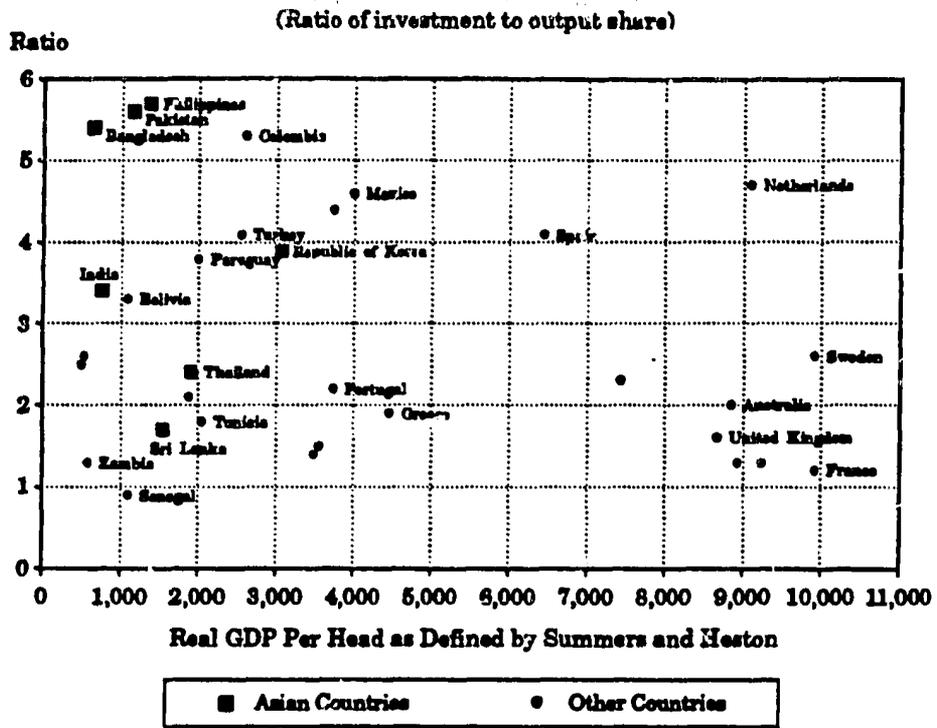


Sources: R.P. Shert, "The Role of Public Enterprises: An International Statistical Comparison", in *Public Enterprises in Mixed Economies: Some Macroeconomic Aspects*, ed. R. Floyd, C. Gary and R.P. Shert (Washington, D.C.: International Monetary Fund, 1984); and R. Summers and A. Heston, "A New Set of International Comparisons of Real Product and Prices for 130 Countries, 1960-1985", *The Review of Income and Wealth*, series 34, no. 1 (1988).

poorer Asian countries, like their poorer compatriots elsewhere, devote nearly one third of total investment to investment in public enterprises.

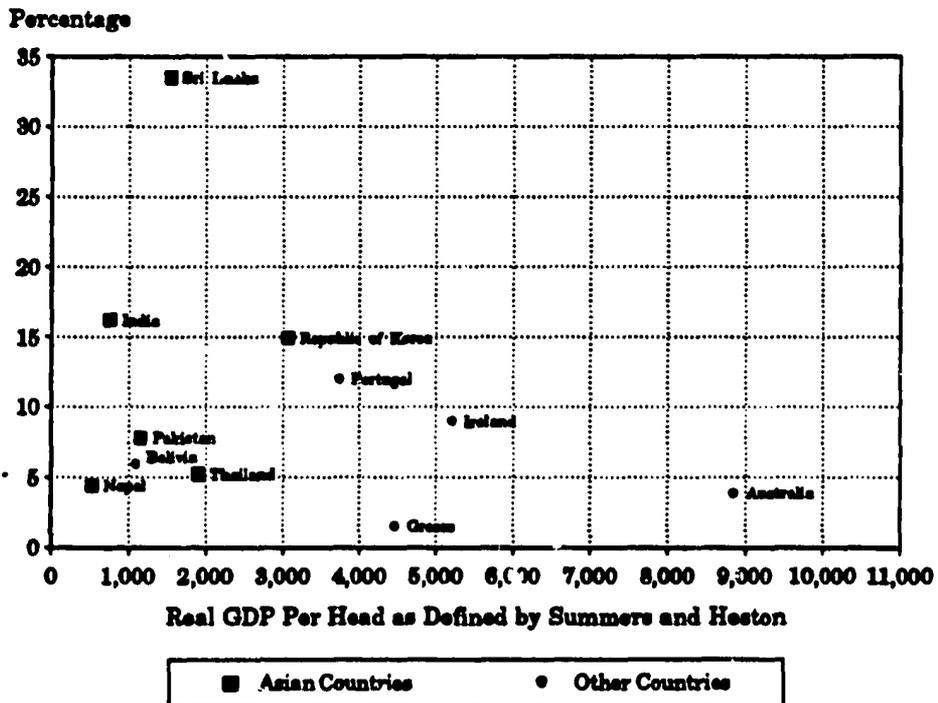
Fig. 2 shows the share of public enterprise in GDP, and here there appears no correlation between level of development and the share of public enterprise in GDP, the average across all countries developed and developing being just under 10 percent. If anything, Asian countries appear below average. Fig. 3 puts the information of Figs. 1 and 2 together to compute the capital intensity of public sector enterprises, defined as the ratio of their share of gross fixed capital formation to their share of value added in GDP. This shows dramatically that the capital intensity of public enterprises is far higher (typically three times higher) than the economy as a whole. The observed slight negative correlation with the level of development is readily explained by noting that public enterprises are concentrated in various sectors, pre-eminently in the capital intensive sectors of power, telecommunications, transport (railways especially) and heavy manufacturing (steel). As the other sectors are relatively less capital intensive and account for a larger share of GDP in less developed countries, the negative correlation in Fig. 1 is readily explained.

A detailed study of the sectoral allocation of public enterprises conducted by Short (1984) suggests that developing countries are not so different from developed countries in the pattern of public ownership across sectors. In particular, public ownership is common among the durable network industries and for other natural monopolies such as ports and airports. Given the alternative of regulating private enterprises, it is worth first asking why public ownership has been the preferred solution in so many cases. Consider what is necessary for private utilities to be willing to invest in the more capital intensive industries (telecommunications, rail, water, electricity). It is unlikely under most systems of government that private operators would be free to charge monopoly prices, either because in a democratic form of government consumers would resist through the political process, or in other forms of government, the state would be reluctant to allow large rents to be generated beyond its control. There are some exceptions to this claim, but they are notably few. If, therefore, the utility owners rationally expect that their prices will be regulated in the future, they need the reassurance that the prices could be set at a sufficiently remunerative level to justify the investment. Once the capital has been sunk, the risk is that the balance of advantage would shift towards those arguing for lower and possibly unremunerative prices and there are numerous examples of developing countries failing to adequately index the prices of public utilities in periods of inflation. The problem of regulation can thus be posed as a dynamic game between the utility and the regulator, as in



Sources: R.P. Short, "The Role of Public Enterprises: An International Statistical Comparison", in *Public Enterprises in Mixed Economies: Some Macroeconomic Aspects*, ed. R. Floyd, C. Gary and R.P. Short (Washington, D.C.: International Monetary Fund, 1984), and R. Summers and A. Heston, "A New Set of International Comparisons of Real Product and Prices for 130 Countries, 1950-1985", *The Review of Income and Wealth*, series 34, no. 1 (1988).

Figure 4: Share of Public Enterprise in Manufacturing



Sources: R.P. Short, "The Role of Public Enterprises: An International Statistical Comparison", in *Public Enterprises in Mixed Economies: Some Macroeconomic Aspects*, ed. R. Floyd, C. Gary and R.P. Short (Washington, D.C.: International Monetary Fund, 1984); and R. Summers and A. Heston, "A New Set of International Comparisons of Real Product and Prices for 130 Countries, 1950-1985", *The Review of Income and Wealth*, series 34, no. 1 (1988).

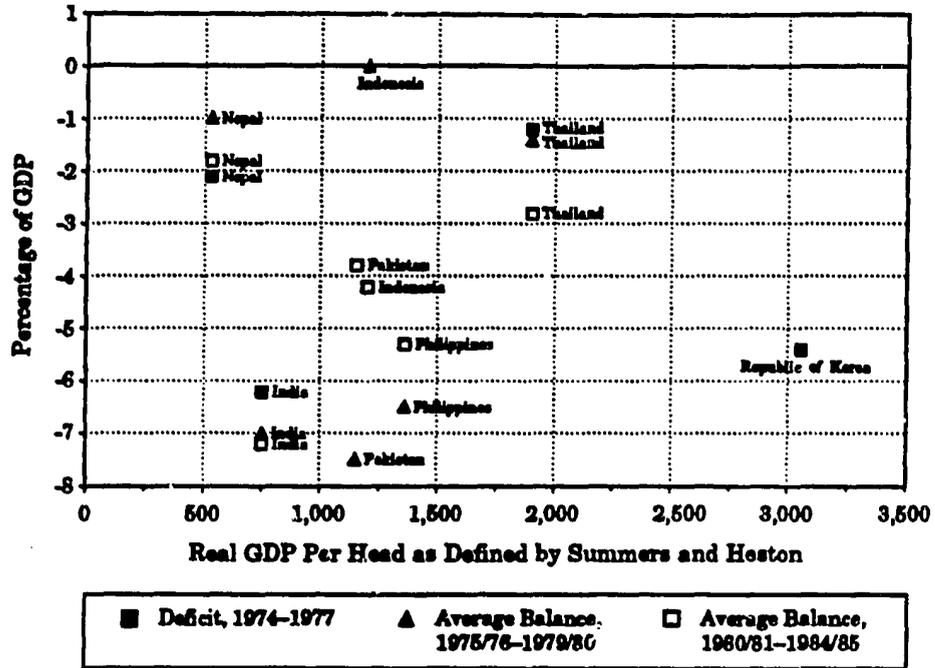
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Gilbert and Newbery (1988). The utility fears that if it invests, its returns will be largely expropriated, while the regulator may be deterred from expropriation by the subsequent unwillingness of the investor to continue to invest. Provided that the rules of this game are sufficiently clearly laid out and incentive compatible or enforceable through constitutional mechanisms, it may be possible to devolve ownership to the private sector subject to regulation. This is most straightforward in stable established and constitutional governments, in which the powers of the regulator are constrained by constitutional prescriptions and upheld by case law. The United States is the leading example, and the entitlement of public utilities to 'a fair rate of return' are defended by two key Supreme Court decisions (*Smyth v. Ames*, 169 US 466, 546-47 (1898), and *Federal Power Commission v. Hope Natural Gas Co.*, 320 US 591 (1944)). The former introduced the concept that a utility is entitled to a fair return on assets employed for the public convenience. The latter addressed the determination of a fair rate of return.) Many countries lack the assurance of fair treatment by the regulatory regime, and in many countries there is no explicit initial regulatory framework within which to place a public utility. In such cases, it is most unlikely that the private sector will invest, and it falls to the State to create the network utilities as part of the infrastructure required for a modern economy.

If developing countries, and the Asian countries in particular, are no different in the sectoral allocation and relative importance of public enterprises in the market economy, we must then ask why development agencies and national governments are increasingly concerned about the performance of public enterprises, and why they are ready to contemplate the privatization of some of these enterprises. Fig. 4 shows, for those countries that give an appropriate sectoral breakdown, the share of value added accounted for by public enterprises in manufacturing industry. The case for public enterprises in the manufacturing sector is relatively weaker than in sectors where natural monopoly is important, and it is in manufacturing that one can most usefully debate the appropriate boundary between public and private ownership. Only Sri Lanka stands out as having an unusually high share, and even India's share looks quite modest compared to the Republic of Korea or Portugal (at this earlier period, before privatisation).

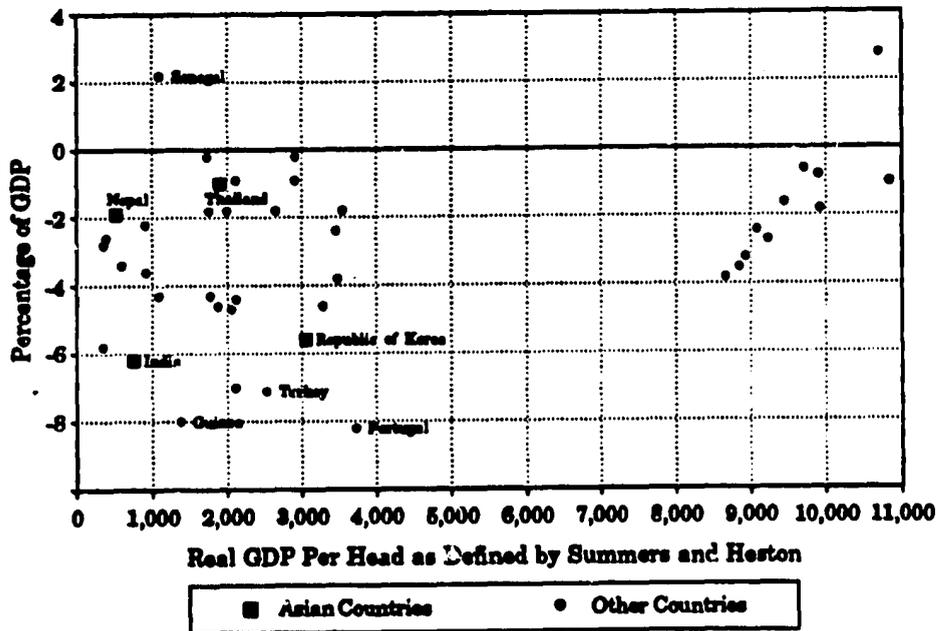
The real reason for public concern about public enterprises is revealed in Figs. 5 and 6, which give various measures of the impact of public enterprises on the public sector deficit. The data in Fig. 5 come from Short (1984, Table 4), and the overall deficit is defined as the difference between (1) current plus capital expenditure; and (2) revenue plus receipts of non-government capital transfers. The standard IMF definition of the public sector deficit

(As percentage of GDP at market prices)



Sources: R.P. Short, "The Role of Public Enterprises: An International Statistical Comparison", in *Public Enterprises in Mixed Economies: Some Macroeconomic Aspects*, ed. R. Floyd, C. Gary and R.P. Short (Washington, D.C.: International Monetary Fund, 1984); and R. Summers and A. Heston, "A New Set of International Comparisons of Real Product and Prices for 180 Countries, 1960-1985", *The Review of Income and Wealth*, series 34, no. 1 (1988).

Figure 6: Overall Balances of Public Enterprises
(As percentage of GDP at market prices)



Sources: R.P. Short, "The Role of Public Enterprises: An International Statistical Comparison", in *Public Enterprises in Mixed Economies: Some Macroeconomic Aspects*, ed. R. Floyd, C. Gary and R.P. Short (Washington, D.C.: International Monetary Fund, 1984); and R. Summers and A. Heston, "A New Set of International Comparisons of Real Product and Prices for 180 Countries, 1960-1985", *The Review of Income and Wealth*, series 34, no. 1 (1988).

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conventionally includes government transfers, but these have been excluded in the interests of inter-country comparability as equivalent transfers can be made in the form of equity or subsidised loans, which would then not be counted. The data in Fig. 5 refer to the mid-nineteen seventies (the period closest to 1974-77) and show that in almost every country public enterprises contribute to the public deficit, though if anything the contribution in developing countries was larger than in developed countries. Fig. 6 looks at Asian public enterprises, and compares the data from Fig. 5 (shown as the filled square) with other data from ADB sources for roughly the same period (the filled triangles) and the early 1980s (the open squares). The ADB data refer to the difference between investment and saving in PSEs, and although in all countries the PSEs generated positive savings, these fell far short of their investment requirements.

One might argue that negative net saving reflected a high rate of investment, which, if the investment were earning a satisfactory return, would be a sign that national savings were being allocated efficiently. This argument is rather implausible, as negative net savings implies that the rate of profit is less than the rate of growth of the capital stock. To take a concrete example, the highest average rate of growth of electricity demand over the decade 1978-88 of the major Asian countries was 10.8 percent p.a. (in Pakistan) with a typical figure of 8 percent p.a. (Asian Development Bank, 1991, Table 25, p34). Most countries use a test discount rate of at least 10 percent real, so if electricity investments were earning their test rate, they would be able to finance their investment out of saving. In fact, in many countries electricity generation runs at a loss. What, then, is the evidence on rates of return? Ideally, we need the real economic rate of return on the investment in the public sector enterprises, but at best we are lucky to find the value of gross profits at market prices divided by the depreciated value of assets, usually measured at historic cost - which typically greatly underestimates the written-down replacement value of assets. For what they are worth, Asian Development Bank (1988, Table 17, p70) gives selected figures for some of its members. In Bangladesh, the 1984/5 gross profit on total assets (at historical cost) for 13 large PSEs was 8.6 percent, and if the monopoly petroleum company is excluded, the return falls to 6.2 percent.³

For India, the return on capital in manufacturing (excluding petroleum) is 5.5 percent, with steel showing a negative return. State-level enterprises are systematically worse, and

³ Ghafur and Chowdhury, (1988, table 3.4, p83). There is clearly an error in the table for BPC, whose assets are assumed to have been overstated by a factor of exactly 10.

state electricity undertakings had a return on capital of less than 4 percent, when the target was 15 percent. Prasad and Rao (1989) provide more detailed evidence from four Southern Indian States on the poor performance of state-level enterprises: thus 19 out of 34 state enterprises in Kerala worked at below 50 percent capacity between 1981 and 1983, while five out of 7 in Tamil Nadu worked below 40 percent utilisation. Interest as a percentage of gross profit rose from 65 percent in 1976 to 138 percent in 1986.

In Indonesia, the ratio of profits to assets fell from 4 percent in 1979 to 2.7 percent in 1985 (though it is completely unclear how these numbers were calculated: see Soesastro et al, 1988, p81). The figures in the other countries look equally low, suggesting that the negative net savings of PSEs derives from low rates of return rather than high rates of investment justified by high rates of return. The summary study (Asian Development Bank, 1988, and Kohli, 1987) argued that increases in public indebtedness since 1975 derived in large part from the failure of public enterprises to generate adequate profits to cover their investment demands. The diagnosis of the inefficiencies of PSEs in turn suggested two types of remedy: privatisation, or specified improvements in the performance of enterprises remaining in the public sector.

2. A new synthesis

What is the role of the state in promoting development? Where do public enterprises fit into this role? These are clearly central questions, but they are hardly original. What has changed that makes it timely to reopen these questions? The answer is that economic theory proceeds on a wide front, and progress elsewhere can shed new light on old problems and questions. I would single out recent developments in four areas that bear on these questions, and which can be brought together to suggest a new and fruitful synthesis.

The first of these is already a synthesis of the lessons of history and development experience. In *Comparative Patterns of Economic Development, 1850-1914*, Morris and Adelman (1988) provide a succinct summary of the theories and theses of those trying to account for the dynamics of long-run structural change, and then subject these theories to quantitative testing on a rich mass of historical data. Any theory of development can now be more readily confronted with the historical evidence and made to compete with rival explanations. In particular, theories that argue for a greater or lesser role for public enterprises should do so on the basis of arguments that can then be confronted with this evidence.

The second strand provides the underpinning for discussions about the potential of privatisation, and the economic elements of a theory of institutions. In the simple textbook world of complete markets, institutions are unimportant, for agents can buy or hire all inputs needed to produce any output, and can sell that output at the same moment they pay for the inputs. This is clearly unrealistic, as markets for future sale are almost entirely missing, and alternative institutions substitute for these missing markets. For similar reasons, ownership and control are frequently separated, and information is incomplete and asymmetrically held, raising problems of agency. In such circumstances, which are the rule rather than the exception, markets no longer behave in the textbook neoclassical manner. If markets do not perform as required, alternative institutions are required and may emerge, such as firms, banks, insurance companies, mortgages, debt, equity capital, and the like. These are in turn based on contracts (either explicit or implicit), that provide incentives for performance and attempt to reduce the inefficiencies arising from asymmetric information. This branch of economics is better placed to ask what is required if resources are to be assembled from diverse owners and allocated to derive the benefits of concentrated control, and can then compare the efficacy of alternative institutional solutions to that problem, in particular, private capitalism, whether or not regulated, and state ownership.

The third and most recent development to grip economics is the attempt to understand and advise on the massive systemic changes under way in the formerly socialist countries of Eastern Europe and the Soviet Union. Here was one of the largest and most fascinating experiments in institutional change being carried out on the doorstep of European economists and policy makers. Suddenly the detailed knowledge and even the number of area specialists working on these economies were inadequate to the task, and economists from widely different backgrounds started to ask the central question: how should such economies be organised? how should they transform themselves from their present system and structure to the new ideal? The new political groupings in these countries associated with the political revolution are convinced that state ownership and control have signally failed and must be replaced by a market economy. They must therefore face the central questions of where to redraw the boundaries of the state, and what role public enterprise is to play in the reformed economy. We in turn need to ask how much of the motive for extensive privatisation is the political desire to entrench and make irreversible the recent political changes, and how much is a well-based economic argument for increased efficiency, though the questions cannot be entirely separated.

Finally, economists are becoming increasingly aware that economic policy is not a simple outside force acting exogenously on the economic system, but is in large measure endogenous, and therefore needs to be explained and understood as part of the wider process of change and development. To take a local example, why are both public and private enterprises in the Republic of Korea so much more efficient than in India? The recent debate on the role of the state in Britain and the United States appears to have been won by those arguing for less intervention, though European bureaucrats in Brussels and Paris have not been completely persuaded. There is widespread agreement among development professionals that state intervention in Latin America and Africa has been a disaster, and should be reversed. Yet the successful Asian countries of Japan, the Republic of Korea and Taiwan appear to provide counterexamples where state intervention was apparently successful in speeding development. Why?

Rodrik (1991), surveying recent developments in Political Economy, argues that the important question is not about the *extent* of state intervention, but its *quality*. He argues that state intervention works quite differently in two different kinds of state, where he draws the key distinction between what he calls 'autonomous' and 'subordinate' states, (roughly corresponding to Myrdal's (1968) distinction between 'hard' and 'soft' states, and to the political scientists' distinction between 'strong' and 'weak' states). An autonomous state is one that can precommit its future actions, and thus acts as a Stackelberg leader *vis a vis* the private sector in choosing policy, whereas a subordinate state cannot precommit, and hence must act as a follower *vis a vis* the private sector. He shows that, compared to autonomous states, state intervention in subordinate states systematically under-provides economically desirable interventions, and systematically over-provides politically motivated and economically harmful interventions.

This last strand of enquiry takes us right back to the first, for some of the most illuminating theories of long-term development stress the importance of market-induced changes in factor prices, notably of land, labour and capital, which in turn precipitated changes in the distribution of income and power. Changes in the power base lead in turn to changes in institutions. Where foreign capital concentrated on extractive and plantation-based export-oriented industries and formed alliances with the landed élite, wages were depressed, income was unequally distributed and there was little demand for domestic manufacture, and hence little political demand for institutional changes that would favour industrialisation. Conversely, where technical opportunities favoured wheat growing on large family farms for domestic consumption, a dispersed surplus could be accumulated to

finance the production of local manufactures, and the more egalitarian income distribution favoured its demand. In turn, emerging industrialists were better placed to press for mass education, and the social and physical infrastructure and legal institutions which would further encourage domestic industrialisation.

A consensus is emerging that resources, technology and comparative advantage by themselves are insufficient to account for the divergence of development experience over the past century or so, and that 'institutions determined both the speed and pattern of development' (Morris and Adelman, 1988, p209). If so, and if the development of institutions is influenced by economic factors, then the problem of policy making becomes far more subtle and complex. What choices are actually available, and how those choices will circumscribe and affect future policy choices, may be more important questions to answer than the immediate short-run effects of the policies themselves.

The remainder of this paper will draw on these insights to explore the role of the state in economic development, both in creating the right institutions to support efficient private investment, and where necessary, public investment. The aim is to go beyond the World Bank's recommendations to 'get the prices right', 'adopt market friendly policies', 'pursue outward oriented trade policies' and to show how these are aspects of the more fundamental need to create future-oriented institutions to compensate for the critical missing market for future output. The success with which this need is filled will determine the efficiency of both the public and the private sector, as well as the appropriate place to locate the boundary between the sectors. To the extent that it affects the efficiency of the whole economy, not just the public sector, it places the role of public enterprises in a more satisfactory framework for analysis.

3. The importance of future-oriented institutions

The development task facing countries in the closing decade of the 20th century is quite different from that facing the now developed countries in the 19th century. To oversimplify, the first wave of development required the invention or discovery of better techniques and institutions, while latecomers need only copy and adapt technologies and institutions that work. Once that is done, the rates of return to capital, skilled labour, and educated managers ought to be high, and substantially above their supply price in developing countries. If rates of profit are high, rates of saving and investment and hence growth ought also to be high, and the process of catching up ought to be rapid. In some countries, notably but not only the

Asian tigers, this is what we see, but elsewhere the growth process appears stalled, or hardly to have started.

Most modern productive activities require infrastructure: communications, power, water and other services, and transport facilities. Most of these are capital-intensive, network industries that are natural monopolies, and the arguments above show why the state will need to be actively involved in their provision. The evidence presented above shows that is what is observed in practice. Although countries vary considerably in the efficiency with which they supply these infrastructural services, it would be hard to attribute development success or failure to infrastructural adequacy alone. Instead it seems more useful to look at institutions which support an efficient *intertemporal* allocation of resources.

The process of transferring and applying best practice techniques to low factor cost environments requires hazarding current resources for uncertain future gains. Some of these uncertainties are unavoidable, but many of them depend on the institutional environment. An ideal environment is one in which agents will be certain that if they are successful, they will be able to exercise secure ownership rights over the returns. They will be protected from theft, arbitrary impost and excessive taxation. Further, future prices and demand levels should not be made more uncertain by government policies. Monetary, fiscal, trade and exchange rate policies all have the capacity to undermine as well as underwrite contractual arrangements, and to reinforce or render invalid predictions about competitiveness, comparative advantage and product demand.

The institutional environment will affect different activities to different extents. Where the activity is small scale, so that the investment can be financed out of the surplus of a family of modest means, and where the demand is relatively insensitive to macro shocks, and the production period short, then risks are low. Most food crops fit this description well. At the other extreme, some branches of modern industry require large scale investment, lengthy and specialised training of managers and workers, and ready access to foreign markets on competitive terms for inputs and the sale of some fraction of the output. Consider what institutions are required to make this viable in a private market economy. In the absence of massed private wealth sufficient to finance the investment, it will be necessary to borrow. Lenders will need to be reassured that they will receive an adequate return, and for that they need reassurance on several counts. First, that there is sufficient identity of purpose between the borrower and lender in pursuing future profit, and second, that the lender can exercise legal title to his claim on that future profit. Immediately we can see the need for a whole range of laws and institutions required to make this feasible,

from capital markets, to accounting and regulatory standards, laws on contract and property rights, currency convertibility (critical for foreign borrowing), and an impartial judicial system to enforce these contracts and laws. The creation of the required financial institutions and the clarification of property rights are arguably the most urgent reforms required in the formerly socialist countries at present.

If access to the necessary financial resources is assured, the next step is to find a suitably skilled workforce. Here the evidence is accumulating that the general level of a country's education (particularly in an undistorted policy environment) is a major determinant of a country's economic growth rate (World Bank, 1991, p5). But how are suitable people induced to invest in their own education and training? Even if the state provides a good education system, people will still need to acquire the necessary specialised skills. If there are a wide range of firms with well-defined needs, and if suitably educated candidates are rich enough and confident enough in the future, then it may be possible to leave supply to market forces, and for the firm to advertise tempting salaries for suitable skills. Otherwise the firm itself may have to undertake the investment in human capital, and the attractiveness of this investment will depend on the extent to which the trained workers are willing to continue to work in the firm for a wage lower than their marginal product (as they effectively pay back the investment costs incurred by the firm), rather than moving for higher pay in other firms.

Finally, unless the technology is very standardised, it may be necessary to licence processes and involve foreign firms directly in technology transfer. Again, this is best done if those foreign firms continue to have an interest in the future performance of the firm, and that requires confidence on their part in the future viability of enterprise in the economy. Outward-oriented trade strategies in part succeed because they underwrite such confidence, as well as ensuring access to inputs of adequate quality (which requires the freedom to import duty-free) and providing assurance that future remittances will be permitted.

Note that almost all these critical requirements involve intertemporal transactions - whether it is investment, borrowing, training, or licensing agreements. If there is one area in which the standard neoclassical economics model is most misleading, it lies in assuming that all relevant markets exist. In the present context, this would require markets for future outputs, and for almost all goods, these simply do not exist. In that sense, the development problem hinges on market failures, or more precisely, the absence of certain markets. Markets are, however, only one form of economic institution, and other institutions may emerge or be created to deal with their failures. Given the centrality of intertemporal

transactions to development, it should come as no surprise that institutions are so central to successful development, and one should note how unhelpful it is to claim that the key policy issue is to get markets working well and to 'get the prices right'.

As already noted, different industries rely to differing degrees on a satisfactory resolution of the intertemporal resource allocation problem. With annual agricultural crops and small-scale craft industries, traditional institutions may suffice, but for mass-produced capital-intensive manufacturing, modern future-oriented institutions are required. There are many countries which have cheap factors, but few with adequate institutional support for long-term private investment, that is, with suitable future-oriented institutions. Competition between those many with cheap factors will drive the return down close to the supply price, while the scarcity of suitable future-oriented institutions should lead to high returns. Simple comparative advantage suggests that the successful countries will be those which combine cheap factors with good future-oriented institutions.

We can now look at the historical record to test this hypothesis, and to see what constitute good future-oriented institutions. What distinguishes successful from unsuccessful industrialising economies (for it is industrial development which most requires satisfactory institutions to support intertemporal transfers)? Why has the Republic of Korea been so successful while Argentina, once one of the richest countries in the world, has been so unsuccessful?

The Korean Example

Amsden (1989) provides a convincing account of Republic of Korea's success. The emergence of a strong Korean state in the late 1960s from a previously weak condition in part resulted from the dissolution of the land-owning aristocracy upon land reform, in part from the weak position of local capitalists. Rodrik (1991) cites survey data from Jones and Sakong (1980) to show that under Park, some 78 percent of a group of businessmen felt that, once the government made a decision, it was always implemented, and it was impossible to avoid complying, whereas only 3 percent felt the same was true under Rhee. The Korean state under Park therefore fits the model of an autonomous state well.

The implementing agents in the process of late industrialisation in Republic of Korea were the closely held, privately owned chaebols, who had accumulated resources in an apparently random and arbitrary way by gross corruption and massive aid transfers in the 1950s. Under Park, this past could be held against them, and they were compelled to invest at home in export-oriented industries, rather than speculating and transferring their wealth

abroad. Their own capital was insufficient, and they were lent substantial sums, usually at subsidized interest rates, so long as they were successful in exporting. The government committed itself to providing the necessary support and rewards to validate this outward-oriented strategy, by exempting imports required for export production from tariffs, while allowing firms who were successful in exporting to sell in the protected domestic market and earn high profits. These government incentives had the following advantages: low interest rates commit the government to sensible future policies, as it does not expect to reap the main benefit from the return to lending, but in increased output, employment and hence the ability to service external debts. Protection for domestic sales plus duty drawbacks for the export market make exporting and production at large scale under decreasing costs less risky. Establishing the criterion of success on export performance provides an objective and non-manipulable test of competitiveness, whereas domestic sales would have depended not only on the success and efficiency of the firm but on macroeconomic conditions, and the level of domestic competition, both open to manipulation by one party or the other.

Another aspect of the policy was that the chaebols rapidly became large and market dominant. As such they could internalise the learning externalities involved in technology transfer, but their market power was best dealt with by exposing them to competition on foreign markets, as well as tight control via price controls over the exercise of undesirable market power at home. (Though making high profits itself was not deemed anti-competitive, but was sanctioned as a way of rewarding success and allocating funds for further expansion). The Korean planning ideology was one of reaping economies of scale while preventing abuse of monopoly power and limiting entry to avoid the dissipation of profits needed for further investment and expansion. For this to succeed, the state has to be very powerful compared to individual enterprises, though no doubt the approach as a whole was supported by enterprises as a whole as they enjoyed high profits in exchange for restraint over monopoly power. It is noticeable that the government, following the example of Japan, aimed for at least duopoly competition in key sectors in the domestic market, and even in some international markets.

The main comparative advantage of these large, diversified, highly-levered export-oriented industries appears to lie in their ability to seek out appropriate foreign technology and to manage its transfer. This required the primacy of engineers as managers supported by skilled workers, rather than financiers who prosper in more speculative environments. Preferential access to subsidized credit allowed the chaebols to absorb or take over smaller firms, and thereby to give them access to these technically skilled managerial resources. It

would be interesting to see if the rates of profit of small firms which were taken over increased as a result - in mature economies mergers on average have no pronounced effect on productivity. Whether or not they increased would provide a test of whether the Korean example provides a good model for the diffusion of the critically scarce factor of managerial/technological expertise. It is, however, important to read the lesson correctly. Many countries, most notably the Soviet-type economies of Eastern Europe, have been attracted to the model of the large capital-intensive enterprise which reaps economies of scale, and in most cases these enterprises have been a disaster - Eastern Europe is littered with the emaciated relics of these industrial dinosaurs. Republic of Korea and Taiwan have allowed large diversified enterprises to emerge as a result of competitive success in foreign markets, and have devised a system of finance which allows them to remain tightly-held, thereby avoiding the problems of the separation of ownership from management characteristic of both state-owned and widely-held private enterprises.

The Indian example

It is interesting and striking to contrast Indian industrial policy with that in Republic of Korea. At the risk of massive oversimplification, the Indian planning ideology was one of self-reliance, and hence inward looking, coupled with a balancing of diverse interest groups, and to that extent emphasised equity rather than efficiency. One of the more salutary lessons of economics is that most efficiency gains are smaller than the redistributive transfers which frequently accompany them. This claim is the counterpart to the necessary condition for efficient taxation: that the deadweight losses are small compared to the revenue transferred to the state. In a society with diverse interest groups, each with some power of veto, governments will find it peculiarly difficult to demonstrate commitment to durable policies or institutions, since these will almost inevitably lead in some cases to disadvantageous outcomes for one or other group. In India, the memory of the 19th century impact of British textiles on the domestic textile industry seems to linger long.

Lall (1987) documents the extent to which trade and industrial policies have operated rigorously to protect domestic firms from the pressures of international competition and the opportunities for technological transfer. The Monopoly and Restrictive Trade Practices Act of 1963 limited the ability of firms to expand in that when firms reach a given market share they are denied access to licences to invest and import. The effect is the opposite of a Darwinian policy of selecting for efficiency more characteristic of Republic of Korea. Labour legislation, and the absence of external competition, meant that wages relative to

productivity were high and labour inefficiently used. Sheltering firms from access to foreign technology, and restricting imports meant that technological development was concentrated on improving the ability of firms to adapt to inferior and poor quality raw materials and supplied inputs. To that extent, scarce technical skills were mis-allocated, and industry remained uncompetitive on world markets. This is particularly evident in the steel industry, which has had to adapt to inferior domestic coal and iron ore.

The Eastern European Example

To examine a pathological version of the problem of the management and control of public enterprises, we need look no further than the Soviet-type economies of Eastern Europe. The Soviet system of planning and central control (and it is important to remember that these economies can only be understood as an integrated *system* of resource allocation) made little use of the signalling and information carrying potential of the price system - partly because the systemic need to control the investible surplus resulted in grossly distorted prices. Enterprises are large and restricted to a single sector to mesh with the system of ministry-based planning, and to secure supposed economies of scale, but probably mostly because producers, attracted as ever to monopoly positions, have been able to capture the regulatory apparatus of the state and prevent competition (Newbery, 1991b). The result is that the government is reduced to a subordinate role, for it lacks reliable independent measures of performance (price signals are misleading, and there are few if any other enterprises in the same line with which to make comparisons). The absence of objective, non-manipulable performance standards, and the fact that the state (in the form of the controlling ministry) is locked in a bilateral bargaining relationship with the enterprise, makes it hard for the state to commit to future actions, for both parties know that when the future arrives, the bargain can (and will) be renegotiated. The enterprise knows that it will not be allowed to fail, and that there are always reasons for poor performance, perhaps because of poor performance elsewhere in the inflexible and autarkic economy. Enterprises cannot be bankrupted and are assured finance for investment and hence face 'soft budget constraints' (Kornai, 1986). Given all this, the state cannot afford to devolve much discretion to the enterprise, for there would be few sanctions for improper behaviour. The result is that profits are subject to punitive taxation (often levied retrospectively), investment is financed by transfers or loans from the monobank, and wages (and hence consumption) must also be tightly controlled. Incentives for efficiency are therefore weak.

The Soviet-type economy found institutional solutions to many of the missing markets which hamper future-oriented decision making: they were efficient at extracting an investible surplus, they found a method of allocating savings to enterprises to invest, they educated the labour force, and invested heavily in the infrastructure of power and transport (especially its 19th century manifestation, the railway). But they lacked the key ingredient of appropriately rewarding successful investment, as they lacked objective criteria for success and the ability to commit to rewards and punishments. If there had been many competitors, it might have been possible to lay down impartial criteria, and accept the consequences of failure and success, but with small numbers of critical enterprises, this was not credible. The paradox of the Soviet system of planning is that in concentrating on capturing the current surplus, it neglected to support the future-oriented actions which were a large part of the justification for central coordinated planning. The supposedly all-powerful centralised state was in effect weak, soft, or subordinate. It would be harder to find a more striking example of the self-defeating nature of this kind of state intervention to improve economic performance.

Policy credibility and commitment

The argument so far is that successful development requires future-oriented institutions, and these in turn require the commitment of the government to predictable rules of behaviour that are favourable to efficient investment, that are consistently and uniformly applied and rely on objective criteria. The longer such rules have been in existence and the more frequently they have been applied, the greater the reputation of the state for their continued application, and the greater their credibility. The German Bundesbank now has a reputation for pursuing a low inflation monetary policy, and this reputation lowers the cost of such a strategy. Small wonder that the rest of Europe wishes to benefit from this reputation in the EMU, or that Germany fears a single currency would undermine this credibility. A commitment to macroeconomic stability is likely to be part of this successful policy, for instability is frequently associated with an inability to control government consumption, and leads to debt, high real interest rates, crowding out of public and private investment, and the sudden need for additional taxes that disrupt investment plans. The Korean case illustrates that low inflation is not a necessary part of this package, provided access to funds at reasonable real interest rates is maintained, and enterprises are assured that they will not be bankrupted for financial rather than real failure. Variable and unpredictable inflation is, however, likely to undermine private capital markets, and make the task of efficiently

allocating investible funds much harder. Low or at least stable inflation is likely to flow from a commitment to a realistically valued exchange rate and an open economy, which in turn restrict the government's power of arbitrary intervention and increase commitment.

The argument for minimal state intervention (apart from the enforcement of contracts and laws and maintaining the value of money) is an argument for making the future more predictable and allowing the emergence of private future-oriented institutions that will not be subject to arbitrary policy shocks. Few governments can credibly commit themselves to this minimalist role. If the government plays a significant economic role, then the success of both the public and private sector will depend on the success with which the government can commit to efficient future-oriented policies. If private wealth is not adequately concentrated in the hands of those willing to invest in modern industry, then financial institutions will be required to mobilise savings and allocate them to those competent to invest. In the private sector this requires financial markets that can be relied upon to monitor the management of the capital.

It might appear that the public sector has an advantage here, as it can mobilise resources by taxation as well as by government-guaranteed borrowing from home and abroad, and does not have the private bank's problem of convincing lenders of its financial rectitude and ability to on-lend prudently. But the very fact that the private bank has to convince lenders to lend means that it has an incentive to monitor its loans and enforce hard budget constraints on borrowers. It will be more difficult to ensure efficient investment and efficient management of capital in the public sector unless the government is prepared to commit itself to a similar monitoring role and is willing to liquidate unsuccessful investments. For this to work, the public enterprise must believe that its performance will be judged by objective and relevant criteria, based on accurate information, and that success and failure will be appropriately rewarded. It is possible to imagine a government committing itself to such a management regime, but only if that government is also capable of commitment to the institutions that would support successful private investment.

A central claim of this article is that private sector inefficiency is likely to go together with public sector inefficiency (and to stem from inadequate future orientation), while public sector efficiency is likely to be matched by private sector efficiency (as the former is only likely if the government is committed to efficient future-oriented policies that will also favour the private sector). If this is accepted, then the debate over the boundaries of the state is unlikely to be much advanced by comparing the efficiency of public and private enterprises. It may well be that in countries with poor investment institutions, the public

the sector, since it may be almost impossible to create adequate private institutions in the face of massive and inefficient state intervention. In such cases, private enterprise takes on aspects of the mafia, and reinforces the ideology of the primacy of state economic activity, as could be seen most acutely in the former Soviet Union. It may also be true that public enterprises like the Korean state-owned steel company POSCO are considerably more efficient than private steel companies in India. The reason has less to do with whether or not the enterprise is in the public or private sector than the quality of the economic environment within which both public and private enterprises operate.

If this is accepted, then the next question is how to create the right kind of economic environment, and how to endow the government with a credible commitment to support efficient investment. Any extension of government activity now must be judged on two criteria: is it sensible in itself, and does it increase or reduce the credibility of efficient economic management? Suppose the government sets up a public enterprise to produce steel. Does this increase or reduce the confidence of potential private export-oriented producers that they will be able to buy steel of the right specification and quality at internationally competitive prices or not? If the government already has committed itself to allowing unrestricted access to imported steel, with duty drawbacks for export, then a public sector steel-mill may signal a commitment to the pursuit of a strategy of internationally competitive heavy industry. If not, then potential steel buyers may fear that they will be compelled by quotas or tariffs to buy inferior domestic steel that will put them at a disadvantage in exporting. Government policy will then have reinforced an inward-looking path of import substitution.

This example suggests a simple rule. If the main reason for creating the public enterprise is to fill a gap because the private sector is unwilling or unable to invest in a project that yields a prospectively attractive economic rate of return, then the government should do everything to facilitate future competition between the public enterprise and any future private producers. One popular argument for public enterprise and state planning is that the market may fail to coordinate mutually profitable investments. The steel mill may only be viable with adequate transport investment, while the transport investment would only be justified by new industries (like the steel mill). If so, and if the government believes

that it would not suffice to undertake the transport investment alone⁴, then the advantages of coordination can be achieved by public investment in the steel-mill, and the potential disadvantages avoided by allowing the private sector also to produce or to import steel. There would be the further advantage that any private steel production would provide additional information about the efficiency of public production. It may also be that a private enterprise would not be able to internalise the learning externalities of training up a labour force and management, and that this would justify public production (and even more, subsidies to private training), but would be happy to follow in the wake of and benefit from the pool of trained labour created by the public enterprise.

4. Which enterprises should and should not be in the public sector?

The evidence cited in the first section suggested that the performance of many PSEs was unsatisfactory, judged by the rather crude measures available: impact on the public sector deficit and rates of return on assets. The Asian Development Bank (1988) study discusses the evidence in more detail, and also the reasons for their poor performance. When it comes to reform, there are two main remedies on offer: privatisation or, if the enterprise is to remain in the public sector, improvements in management and control. The main argument of this article is that improved performance, whether in the public or private sector, will in large part depend on creating the necessary future-oriented institutions to support efficient investment, while subjecting the enterprises to competitive pressure where possible, and where not (because of natural monopoly) to its equivalent in tight efficiency auditing.

Of these remedies, the one that raises the more fundamental issues is that of privatisation, for it asks where the boundaries of the state should lie. The answer may depend on the level of institutional development, for state ownership may be required as a substitute for private enterprise that lacks confidence in the future economic environment. We can thus ask two questions: (1) which enterprises should and should not be in public ownership (or equivalently, which enterprises should be privatised), and (2) whether it ever makes sense to create a public enterprise that will be subsequently privatised. If we take the first question, it is important to note that on economic grounds the arguments for public or private ownership appear finely balanced if the government is committed to economic

⁴ That is, to follow Hirschman's (1958) strategy 'unbalanced growth', which induces complementary investments, rather than the arguments for 'balanced growth' of Scitovsky (1954).

development and the country is well-endowed with the appropriate future-oriented institutions. If the public enterprise can be made to compete with private firms (at home or via international trade) then it should be relatively simple to ensure that it behaves efficiently in the public sector, for profitability will be a good test of efficiency. Conversely, if it can compete with private firms, then it could also be run as a private firm, and the same competitive pressures would also ensure that it acted in the national interest, so there would be no reason to keep it in the public sector. On the other hand, if the enterprise is a natural monopoly, it would need to be regulated if it were privately owned to avoid the abuse of market power, but it would also need to be closely monitored if it were in the public sector, for exactly the same reason. Moreover, the same problems of obtaining impartial information and setting credible performance criteria would arise for the regulator in both cases. To resolve this apparently inconclusive neutrality we need to appeal to a further test: which allocation works better in adverse conditions, when the government's commitment to economic development is weak and the country lacks future-oriented institutions?

This question is decisive for competitive enterprises - they should be in the private sector, for if they are kept in the public sector and they perform poorly, they are more likely to be successful in obtaining subsidies, or even worse, protection against competition, than if they were in the private sector. The argument is that public enterprises have a comparative advantage relative to private enterprises in *regulatory capture*, in which the industry captures those parts of the legislative process that can protect it against competition. This same theory also applies to potentially profitable natural monopolies like electricity, gas, and telecommunications. The British experience in privatising and regulating these utilities is instructive. Under public ownership the utilities were required to earn a specified overall rate of return on their assets, which they could do by raising prices sufficiently. When they were privatised, they became subject to price cap regulation, under which they were not allowed to increase the average price of their sales by more than 'RPI - X' percent, where 'RPI' is the percentage change in the retail price index and X is a number specified by the regulator. The utilities were forced to produce detailed management and financial accounts to identify the activities that made profits and losses, and to relate prices more closely to costs. In most cases this led to considerable management reorganisation and reductions in employment, either in the run-up to privatisation or thereafter. It is possible that if the utilities had been kept in public ownership but subjected to similar autonomous regulation or oversight, then the same productivity improvements might have been achieved, but the fact is that it did not happen during the previous forty years. In short, it is not very helpful

to compare the potential efficiency of enterprises under public or private ownership on the assumption that the government would implement an optimal management system to control the public enterprise.⁵

The next question to address is what to do with enterprises that produce under strongly decreasing costs that are likely to make losses if priced efficiently. The standard example is railways, though some services provided by otherwise profitable utilities may fall into this category (rural electricity, rural telecommunications). It is hard to imagine selling the right to make losses to private buyers. The response of those anxious to divest the government of as many productive activities as possible has two parts. First, many loss-making activities appear to experience almost constant returns to scale, and therefore should be priced at close to average cost. If they did, and they experienced a large fall in demand, then perhaps they should be scaled back (assuming that costs cannot be cut to regain their old price advantage). Railways appear to fit this description, at least for non-commuter traffic. Second, it may be possible to divest those parts that experience constant returns, and retain the core - perhaps the tracks in the case of railways. Even where this is not possible, it may be possible to franchise loss-making activities in return for payments to cover these losses, with the double advantage that there would be competition between suppliers to select the most efficient operator, and the loss would be made explicit and subject to closer scrutiny.

The main problem with this argument (and with the argument that regulating private monopolies is preferable to public ownership) is once more the problem of commitment to future actions. A privately owned electricity company that must seek regulatory authority to raise its rates in an inflationary environment may worry that the regulator will pay more attention to pressing short-term needs (of current consumers, or the anti-inflation policy) than the need to assure the utility of the future profitability of current investment. The utility may therefore be reluctant to invest. Similarly, a rail operator contemplating the considerable fixed costs of setting up in business would need to be confident that the subsidies currently on offer would be appropriately indexed and secure for the future before committing current resources.

⁵ Though now that the importance of the system of monitoring is more widely appreciated, there are useful lessons to learn for the management of enterprises that remain in the public sector.

This brings us back to the second question: might it ever be sensible to establish a public enterprise with a view to eventual privatisation? If the enterprise in question is a public utility with a natural monopoly that cannot credibly be left unregulated in the private sector, and if the government has not created a reputation for stable, rule-based and autonomous regulation, then there may be little option but to create the utility as a public enterprise (and this is typically what we see in countries where such utilities were not created in the heyday of 19th century capitalism). In the case of electricity, the case for privatisation is less compelling than the case for the freedom of private suppliers to buy and sell wholesale electricity into the grid, and that it turn requires a separation of the grid (and despatch) from ownership of the generators, if private and public generators are to compete on equal terms (and for private suppliers to be reassured about the future).

Telecommunications raises rather different issues. A large part of the investment lies in the connections from the individual subscriber to the branch office, and these are relatively low-tech public works, requiring rights of eminent domain, and hence naturally assigned in the first instance to the public sector. On the other hand, the switches and connections between cities lie on the forefront of modern technology and clearly have to be supplied by state-of-the-art producers. System capital costs are high compared to operating costs, and capital costs are of the order of \$2,000 per line. It might therefore be attractive to privatise the enterprise once the basic infrastructure of lines has been created, in order to gain access to appropriate technology and management. The fact that telecoms is an international service makes it attractive to foreign companies provided that the volume of (lucrative) international traffic is large enough (Mexico) or the location of the country is favourable for international routing (New Zealand), and this in turn raises the price for which the enterprise can be sold by increasing the number of potential buyers.

The main problem lies in convincing the buyer that he will continue to be able to earn a satisfactory return on the substantial investments required. If the privatised enterprise were allowed to charge subscribers the full capital cost of connection (i.e. \$2000 or so) in return for zero rentals and low calling rates thereafter, the risks of expropriation (through failure to allow rentals to increase in line with prices, or through nationalisation) would be minimal. The main problem with this solution is that all the risk is placed upon subscribers, who would have to pay now for a future service of unknown quality, and the government would be inhibited from providing the social dimension of access to poorer domestic subscribers that has traditionally been an important element of communications policy. One can imagine creative solutions to this problem of commitment, in which a government agency

leases lines to subscribers and pays the lump sum equivalent to the telecom company, possibly directly subsidizing the leases of some categories of service.

This solution of leasing allows airlines with management expertise but little access to finance to run airlines, and again the international networking aspect makes foreign ownership by an efficient company feasible, while domestic routes can be supplied by private domestic carriers, also leasing aircraft, in competition with the international carrier. Provided access to airports and landing slots is intelligently managed, the evidence is that such competition creates substantial benefits to consumers, and tends to support the perception of openness that does much to enhance the economic credibility of the government. Airports, like ports, roads, and the electricity grid, share the same natural network monopoly characteristics that argue either for public ownership or tight regulation under private ownership - effectively therefore probably requiring public ownership, at least initially.

The evidence similarly suggests that publicly owned road haulage is substantially inferior to unregulated private road haulage, and is a natural candidate for rapid privatisation, particularly as the optimum size of a trucking enterprise is very small (the average size is less than 10 vehicles in all EC countries, and these can be leased). Passenger transport is similarly best privatised, perhaps with equal access to publicly-owned bus terminals. Again, achieving a competitive environment is the main source of productivity improvements, and competition in turn is fostered by small-scale operation that simplifies the sale of the assets (often by management buy-outs).

Road transport is a natural candidate for the private sector as it experiences constant returns, and can thus operate competitively, but under public ownership is peculiarly prone to regulatory capture through the system of licensing that all vehicles require as a condition of access to the publicly owned road infrastructure. Under constant returns, competition ensures that all the benefits are transferred to the consumer. The same is true for marketing, and state-trading enterprises have been a disaster in Africa. In the case of mineral resources, there are typically large scarcity rents to which the government usually lays claim. The practical problem facing the government is to appropriate these rents without reducing the efficiency with which the minerals are extracted. Again, the problem is that of commitment to future actions. The multinational mining companies have an obvious comparative advantage in exploration and exploitation, but are worried about expropriation (fiscally or by nationalisation) once they have sunk their investment and made the discovery (Pearce et

al, 1984).⁶ In turn, governments were often mistrustful of their ability to properly tax these multinational mining companies, or to negotiate satisfactory contracts. The end result was frequently national ownership and exploitation, on the theory that the state would then automatically receive the rents without the need for complex taxes or contracts. The problem as usual lies in ensuring that sufficiently competent managers are recruited and induced to manage efficiently. Again, the ideal when public ownership seems inevitable in the first instance is to keep open the option of future private entry and competition.

Other arguments for public ownership

The main argument advanced above for public ownership is that private investors do not trust the government to allow them to continue trading profitably in the future. Leasing may alleviate this problem, as might non-voting equity participation by the government and guarantees by international agencies or aid-giving foreign governments. But what of the other arguments for public enterprise: the lack of domestic capital; the need for domestic control over strategic industries; the need to create development poles in deprived regions, and the old argument that public investment secures the entire surplus for further investment and thus accelerates the rate of growth.

The last argument can be addressed first, as it is the weakest. The evidence cited in the first section is that the rate of saving of public enterprises is typically low, and rates of return are also often low. The World Bank has analyzed 1,200 completed public sector projects that it has financed, and finds, first, that *ex post* economic rates of return to these projects are on average lower in more distorted economies than in less distorted economies, and second, that in the less distorted economies, rates of return increase with the share of public investment in total investment up to a share of 40 percent, and thereafter decrease quite sharply (World Bank, 1991, fig 4.3, p86). They also find that rates of return to transport and urban infrastructure projects, public utility and energy investment are systematically higher than industrial and agricultural projects (World Bank, 1991, fig 4.1, p83). Taken together, these two pieces of evidence are consistent with the view that public investment makes most sense when confined to infrastructure (including power) and that too

⁶ It seems easier to resolve these contractual difficulties where the mineral is internationally traded at a well-defined price (like oil, or copper), and hardest for non-traded goods like gas, where the company cannot devise a contract which involves payment in the mineral.

large a share of total investment (extending the range of activities to include industrial investment) lowers returns.

The argument for public investment in backward regions is similarly suspect. As argued in the first section, public investment is typically very capital intensive, so such investment is a very inefficient method of creating employment income; lowering transport costs and reducing agricultural taxation is likely to be more effective. If a backward region has a potential comparative advantage in industry, then removing the infrastructural bottlenecks is likely to be more effective than adding to them by creating more demand for their services. If it does not have a comparative advantage, then other methods of targeting support will by definition be preferable. Increased devolution of administrative services coupled with investment in communications, as in federal states (the United States, Germany) rather than the overcentralisation that goes with poor communications (eg Thailand) would seem the natural solution to this problem.

That leaves the combination of a lack of domestic capital and the felt need for domestic ownership of key industries, to internalise learning, especially of central management skills that might otherwise be confined to the head office abroad. Even here, foreign direct investment can play a path-breaking role in defining the market, creating demand for small scale enterprises supplying producer goods and services, that in turn create the local network externalities that seem important for industrial success. It would seem better in the long run to allow the most successful of these small firms to borrow, merge and grow to the size at which they can raise capital from local development or investment banks. The alternative in which the government attempts to accelerate the process by lending to untried enterprises does not have a good record to date.

The problem of transition and privatisation

The key argument for public ownership is the unwillingness of the private sector to undertake investment on socially acceptable terms. If the government is concerned with economic development, it should be attempting to create future-oriented institutions that raise the social returns to private investment, and also establishing a reputation for efficient and stable economic management. A large part of this will lie in creating and enforcing an appropriate legal structure for contracts, property rights and competition, in pursuing fiscally prudent expenditure policies, removing impediments to foreign trade and regulations on domestic activity. The problem is a more tractable version of the problem of transition in the formerly socialist countries of Eastern Europe, and raises many of the same sequencing

questions (see e.g. Newbery, 1991b). For public enterprises, the key question is whether the enterprises that are more appropriately allocated to the private sector should be privatised rapidly, or later in the sequence of reforms. The argument for speed is that of establishing the credibility of the reform policy. The argument for caution is that the PSEs will be easier to value correctly and hence more valuable once other reforms have reassured the private sector of the future stability of the economic environment and hence of the viability of the enterprises. What is quite clear is that the government should lose no time in putting in place the right control and auditing institutions to monitor the PSEs that remain in the public sector, and that will also be needed to prepare the rest for privatisation.

The question how rapidly to privatise PSEs is closely connected to the question of how to privatise. If enterprises are to be restructured, accounts prepared, and then sold at a fair market price, then the process will be more time consuming than if they are auctioned off 'as is', or, as proposed in Poland and Czechoslovakia, distributed to the population at a nominal price. The case for realising the largest possible fraction of the economic value⁷ of the assets is more compelling in developing countries than in Eastern Europe, which has enjoyed full employment and a remarkably egalitarian income distribution. In Eastern Europe one can argue that free distribution (preferably via shares placed in a pension fund) can be integrated into the overall tax system, which is distinguished by its comprehensive coverage and egalitarian emphasis (Newbery, 1991a). Few developing countries are in that position, and many have large debts which were accumulated as a result of a failure to finance investment out of retained profit. The capital in the PSEs is the counterpart to this debt, and adequate privatisation proceeds are needed to reduce the debt. The implication is that the enterprises should be restructured and prepared for sale, even if this slows down the process. There is also a good case for partial sales, perhaps restricting the voting rights of the residual state share holding, to allow the process of restructuring and improvement to continue, further raising the value of the residual shares, as was done with the first large privatisation in Britain, that of British Telecom.

Another form of partial privatisation that might hold attractions is to transfer ownership (and the responsibility for governance) to state-owned development banks, which themselves may be eventually privatised, and which would be charged with selling off the

⁷ The wording is chosen carefully to avoid stating that the enterprises should be sold for the highest *price*, which is best achieved by granting a statutory monopoly to the buyer. This would of course lower the social value of the sale, and replace potential (but probably absent) public taxation by private taxation.

PSEs when the time is ripe. The main problem here is that of designing the governance of the development bank. One could go further and argue that creating a competitive, efficient and prudential system of commercial and development banking oriented to productive investment (rather than just the finance of trade) is the central component of the required future-oriented institutions, and that the critical step needed to evolve this structure is a good system of financial regulation. With that in place, the problem of monitoring the privatisation/development bank becomes manageable. The ultimate objective might be a banking system that acts rather like German banks in monitoring enterprises, or like the Korean chaebols which disseminate managerial knowhow as well as finance to the firms it acquires.

5. Improving the Management of Public Enterprises

For those enterprises which are to remain (temporarily or permanently) in the public sector, the twin objectives are to improve their performance and hence assist rather than hinder economic development, and to increase the credibility of the government's commitment to increased economic efficiency. Kohli (1987, p26) has summarised the lessons learned from the ADB country studies, and Pliatzky (1987, p65) lists five golden rules based on British experience. Most of these have to do with setting clear objectives and performance criteria, monitoring performance and rewarding success. These objectives should include productive efficiency, profitability and efficient pricing, and the PSEs should be subject to competition wherever possible: there should be no entry barriers (facing private competitors) nor exit barriers (preventing the bankruptcy or liquidation of the PSE). Social and distributional objectives are best addressed by separate instruments - targeted subsidies or programmes - rather than distorting the prices charged by the PSEs. As a powerful and convincing case has already been made for these reforms, the following section concentrates on the details of two of the recommendations: on the degree of autonomy accorded to PSEs in general and over pricing in particular.

A central question in the management of public enterprises is the degree of autonomy to give the enterprise managers, and the form of regulatory oversight. Principal-agency theory offers several insights to guide the design of a management system. The degree of autonomy can be measured by the extent to which the enterprise controls the allocation of profits and makes decisions without the need for central authorization. Autonomy is desirable if the principal (the ministry or agency responsible for overseeing the enterprise) has access to good quality information on which to assess the enterprise's performance. It

is more desirable to grant autonomy where the objectives of the management are aligned with those of the State, and more difficult where the objectives of the management run counter to economic efficiency. It is more desirable where the information needed to make investment, pricing or production decisions depend on detailed local information best known to the enterprise. Electricity generation and telecommunications probably fall into this category, as technical standards are readily measured, and it is normal that the managers will be technically competent engineers whose training will place considerable weight on technical excellence. Both industries are capital intensive with heavy investment demands, and although both should earn high rates of profit (probably not so different from the test rate of discount, or at least 10 percent real) their growth rate may even exceed this, requiring recourse to external finance. Claims for external finance should be assessed in the light of the performance of the industry. In both cases, if the industry is in the public sector, the natural source of finance would be international agencies, who will provide a useful objective test of efficiency. At the other extreme, the Post Office has less well-defined objectives, is more labour intensive, and is more likely to be captured by the Unions whose objective will be to maximise wages and employment, and whose demand for investment will be lower. One would expect the Post Office to have considerably less autonomy, and to present greater challenges in devising appropriate criteria for measuring performance.

Pricing and Investment Decisions

Public enterprises are typically given objectives which are to guide their pricing and investment decisions, and the experience of the British nationalised industries is very instructive. The government published White Papers setting out the principles of efficient pricing - at marginal cost - and the need for cost-benefit analysis of investment projects using a test discount rate. It assumed that there was no potential conflict in the objectives of the industry and the government (representing the country), and so the system of accounts and oversight was designed more to prevent fraud than to ensure efficiency. It was gradually realised that the managers of public utilities saw themselves providing essential services, and therefore not required to make high rates of profit. Their aspirations were more oriented towards ambitious expansion plans, based on optimistic or best-case forecasts. When overinvestment lead to excess capacity, marginal cost pricing argued for cutting prices and thereby stimulating demand and validating the forecast, though failing to earn the test

discount rate. There was little incentive to minimise capital costs per unit of capacity, and the record of the electricity industry was particularly poor in this respect.⁸

The government response to the poor financial performance of the nationalised industries was to instruct them to set prices to achieve a 'required rate of return' on their capital (measured using current cost accounting conventions at written down replacement cost), and to subject the utilities to efficiency audits, conducted by the Monopolies and Mergers Commission. In addition, the utilities were given External Financial Limits (EFLs) which restricted the net amount of finance they could raise for investment, and for profitable industries with a projected growth rate below the required rate of return, these EFLs were negative, implying that the utility paid the government a dividend after self-financing investment. These new rules might well have worked, though they were subverted by macro policies in the wake of the oil shocks of the 1970s, which restricted price increases and starved telecoms in particular of finance. Eventually these rules were rendered redundant by privatization.

Nevertheless, if capital-intensive industries are to remain in the public sector, then arguably the most important reform to make is to impose required rate of return and EFL targets on the industries, and subject them to efficiency audits and ideally to external competitive pressure by removing any restrictions on competition with the public sector. The World Bank estimates that the average *ex post* economic rate of return on utilities and infrastructural investments in low distortion economies was between 20 and 25 percent real. (World Bank, 1991, figs 4.1, 4.2) This figure will be substantially inflated by the high rates of return to road and port infrastructure projects, where the returns to maintenance or rehabilitation projects are often very high indeed,⁹ and returns to investment in public utilities will probably have been lower, though on average above the Bank's test discount rate of 10 percent real. If we assume that well-managed utilities should earn at least 10 percent real, then they should also be able to finance rather more than a 10 percent growth

⁸ As documented in the Layfield enquiry into the Sizewell Nuclear Power Station (Layfield, 1987). Electricity generation is an industry where international comparisons are reasonably straightforward, but it is unlikely that the problem was confined to that industry.

⁹ There remains the interesting question whether the original road construction projects yielded good returns, given that many of them needed subsequent expensive rehabilitation.

rate without external finance.¹⁰ Higher growth rates might be justified if the present capacity were inadequate, though this would argue for rationing through even higher prices and hence a higher rate of return. In short, it is hard to see why most public enterprises should not be largely self-financing once they are in full operation. As noted in the first section, 10 percent was at the high end of electricity growth rates in Asian countries over the past decade.

The costs of allowing public enterprises to earn low returns which require large net transfers from the public budget are high even where the country is not heavily indebted, and higher still when they are. Deadweight costs of the taxation rise as the *square* of the tax rate, so the narrower the tax base, the higher the taxes need to be to collect the same revenue and the higher the deadweight losses will be. Doubling the tax base and halving the tax rate halves the deadweight loss. The tax base in developing countries is already small, and to further restrict it by underpricing the output of the PSEs is very costly. The costs of inflationary or debt finance caused by a failure to increase taxes is even higher, particularly if it causes foreign private lenders to fear that the debt cannot or will not be repaid. There is a further indirect cost in subsidising the sales of PSEs in that it mutes (and was intended to mute) public pressure for the reform of the PSEs, and makes competition from private suppliers harder.

6. Conclusions

Public Sector Enterprises have earned low rates of return and failed to finance their investment, thereby exacerbating the debt problem in developing countries in Asia and elsewhere, and also in many developed countries. As a result, the development institutions are placing increasing emphasis on improving the performance of PSEs, and, where appropriate, increasingly recommend privatisation. The aim of this paper has been to place these recommendations in a wider framework and thereby to focus on the more fundamental problem of encouraging efficiency in the economy as a whole. Short-run efficiency in the use of existing resources requires competitive pressure or its equivalent, but long-run development requires efficient investment. The more agents are persuaded that they will enjoy secure title to the future fruits of their investment, the more they will be willing to

¹⁰ The gross rate of return including depreciation will be above the net return of 10 percent, and the gross returns are available for gross investment. Eventually replacement investment will lower the net rate of capital formation, though this is likely to happen only after a substantial lag.

invest, not only in physical capital, but in the knowledge and skills whose lack most differentiates the developing from the developed world. The wider is the range of potential investors, the greater will be the competitive pressure reinforcing efficiency. The central problem of development is to provide the institutional assurance and commitment to those future titles, while ensuring that the prices which guide those investment decisions do not mislead nor deter. Creating such credibility may take time and will require constraints on the short-run freedom of the government, in the form of rules and restrictions: uniformity of taxation and regulation, ruling out quantitative interventions or licensing except in well-defined and defended cases. Developing a soundly regulated financial system will be a critical part of supporting the required level of private investment.

It may be that before the required institutional framework is created, the government will need to invest in some sectors where private investment is not forthcoming. The guiding principle here is to ensure that any such investment increases rather than reduces the chance of future private investment, where such investment would be justified, both to underwrite support for private investment and to place competitive pressure on the public sector enterprise. There are good arguments for managing such PSEs as though they were closely-held private enterprises, with publicly published and audited accounts, subject to the same system of contract law and taxation, and ready when necessary to be privatised. For enterprises that remain in public ownership, the guiding principle is to ensure that they contribute to private development rather than placing a burden upon it, by achieving production efficiency, efficient prices, and financing their own investment as far as sensible out of retained profits. The main task of the regulatory agency charged with monitoring their performance will be to establish a reputation for impartiality and consistency in monitoring, and rewarding performance and penalising failure, if necessary by liquidation. In short, the emphasis needs to be placed on what agents will expect of the future rather than what is to be done right now.

References

- Amsden, A. H. (1989) *Asia's next giant: South Korea and Late Industrialisation*, Oxford University Press
- Asian Development Bank, (1988) *Financing Public Sector Development Expenditure in Selected Countries: An Overview*, Asian Development Bank, Manila
- Asian Development Bank, (1990), *Annual Report 1990*, Asian Development Bank, Manila.
- Asian Development Bank, (1991), *Key Indicators of Developing Asian and Pacific Countries*, vol XXII, July, Asian Development Bank, Manila.
- Gilbert, R. J and D.M. Newbery, (1988) 'Regulation Games' CEPR Discussion Paper 267, September, 1988.
- Ghafur, Abdul, Omar H. Chowdhury, (1988) *Financing Public Sector Development Expenditure in Selected Countries - Bangladesh*, Asian Development Bank, Manila
- Hirschman, A. O. (1958). *The Strategy of Economic Development* New Haven: Yale University Press
- Jones, Leroy, and Il Sakong, (1980) *Government, Business and Entrepreneurship in Economic Development: The Korean Case*, Cambridge MA: Harvard University Press
- Kornai, J. (1986), 'The Soft Budget Constraint', *Kyklos*, vol 39, 3-30.
- Lall, S. (1987), *Learning to Industrialize*, London: MacMillan.
- Layfield, Sir Frank, (1987) *Sizewell B Public Enquiry, Report by Sir Frank Layfield*, 8 vols, Department of Energy, HMSO, London.
- Morris, C. Taft and Irma Adelman, (1988) *Comparative Patterns of Economic Development, 1850-1914*, Johns Hopkins Press, Baltimore.
- Myrdal, Gunnar, (1968), *Asian Drama*, New York: Pantheon.
- Newbery, D.M. (1991a) 'Reform in Hungary: Sequencing and Privatisation', *European Economic Review*, 35, May, 571-80.
- Newbery, D.M. (1991b) 'Sequencing the Transition', pp 181-99 in *The Transition of Socialist Economies Symposium 1991*, ed. H. Siebert. Tübingen, J.C.B. Mohr (Paul Siebeck), Tübingen, 1992. Also issued as Centre for Economic Policy Research DP 575, London, and Institute for Policy Reform, Washington DC.
- Pearce, David, Horst Siebert and Ingo Walter (1984) *Risk and the Political Economy of Resource Development*, (MacMillan Press, London).
- Pliatzky, Leo, (1987) 'Optimizing the Role of the Public Sector: Constraints and Remedial Policies', *Asian Development Review*, vol. 5, no. 2, pp. 58-69.
- Prasad, G. and K.B. Rao, (1989) *Financial Management and Public Sector Enterprises*
- Rodrik, D. (1991), 'Political Economy and Development Policy', mimeo, Harvard (paper presented to the EEA Congress, Cambridge, 1991)
- Scitovsky, T. (1954) 'Two concepts of external economies', *Journal of Pol. Econ.* 54 (2), 143-51.
- Short, R.P. (1984), 'The role of public enterprises: an international statistical comparison' in R. Floyd, C. Gary and R. Short (eds.) *Public Enterprises in Mixed Economies: Some Macroeconomic Aspects*, IMF, Washington DC.
- Soesastro, M. Hadi, D.S. Simandjuntak, P.R. Silalahi, (1988), *Financing Public Sector Development Expenditure in Selected Countries - Indonesia*, Asian Development Bank, Manila.
- Stem, N. (1991) 'Public policy and the economics of development', *European Economic Review*, 35, pp. 241-71.
- Summers, R. and A. Heston, (1988) 'A New Set of International Comparisons of Real Product and Prices for 130 Countries, 1950-1985', *The Review of Income and Wealth* (Series 34, No. 1).
- World Bank (1983), *World Development Report, 1983*, Washington DC: The World Bank
- World Bank (1988), *World Development Report, 1988*, Washington DC: The World Bank
- World Bank (1991), *World Development Report, 1991*, Washington DC: The World Bank

Table 1 Basic data for Public Enterprises, 1975-77

| Country | Abrev | Years | RGDP 1985 | % PSE GDP | share in GFCF | Mfg |
|--------------------|-------|-------|--------------|--------------|------------------|------|
| Ethiopia | Et | 76-7 | 370 | | 17.6 | |
| Mali | Ma | 74-7 | 285 | | 31.1 | |
| Tanzania | Tz | 74-7 | 355 | 12.3 | 30.3 | 37.9 |
| Malawi | Ma | 74-7 | 387 | | 28.1 | |
| Sierra Leone | SLe | 79 | 443 | 7.6 | 19.6 | 14.2 |
| Guinea | Gu | 79 | 452 | 25 | | |
| Togo | To | 80 | 489 | 11.8 | | |
| Liberia | Li | 74-6 | 491 | | 14.1 | |
| Benin | Bn | 76 | 525 | 7.6 | | |
| Nepal | NE | 74-5 | 526 | 1.3 | | 4.4 |
| Zambia | Za | 72 | 584 | 37.8 | 49.7 | |
| Kenya | Ke | 74-7 | 598 | | 18.1 | 13.1 |
| Bangladesh | BD | 74 | 647 | 5.7 | 31 | |
| India | IN | 74-7 | 750 | 9.8 | 33.8 | 16.2 |
| Honduras | Ho | 78-9 | 911 | | 14.6 | |
| Ivory Coast | Ic | 74-7 | 920 | | 28.8 | |
| Bolivia | Bo | 74-7 | 1089 | 12.1 | 40.9 | 5.9 |
| Senegal (RGDP est) | Se | 74 | 1100 | 19.9 | 17.9 | |
| Pakistan | PK | 74-5 | 1153 | 6 | 33.3 | 7.8 |
| Egypt | Eg | 76-9 | 1188 | | 47.8 | |
| Philippines | PH | 74-7 | 1361 | 1.7 | 9.5 | |
| Papua New Guinea | PN | 77 | 1374 | | 18.8 | |
| Sri Lanka | SL | 74 | 1539 | 9.9 | 15.7 | 33.5 |
| Guatemala | Gu | 78-80 | 1608 | 1.1 | 13.3 | |
| Jamaica | Ja | 76-7 | 1725 | | 40.1 | |
| Dominican Rep | Dr | 74-7 | 1753 | | 11.1 | |
| Botswana | Bt | 74-7 | 1702 | 7.7 | 16.5 | |
| Mauritius | Mr | 77-9 | 1869 | | 14.4 | |
| Thailand | TH | 70-73 | 1900 | 3.6 | 8.5 | 5.2 |
| Paraguay | Pg | 74-7 | 1996 | 2.7 | 10.4 | |
| Tunisia | Tu | 78-9 | 2050 | 25.4 | 44.6 | |
| Peru | Pe | 74-7 | 2114 | | 22.1 | |
| Turkey | Tk | 74-7 | 2533 | 5.8 | 23.5 | |
| Colombia | Co | 74-7 | 2599 | 1.9 | 10.3 | |
| Costa Rica | Cr | 77-9 | 2650 | | 19.6 | |
| Panama | Pa | 74-7 | 2912 | | 32.7 | |
| Korea | KO | 74-7 | 3056 | 6.4 | 25.1 | 14.9 |
| Brazil | Br | 80 | 3282 | | 22.8 | |
| Uruguay | Ur | 74-7 | 3462 | | 16.6 | |
| Argentina | Ar | 76-7 | 3486 | 4.8 | 20.7 | |
| Chile | Ch | 74-7 | 3486 | 15.2 | 20 | |
| Venezuela | Ve | 74-7 | 3548 | 15 | 22.3 | |
| Portugal | Po | 76 | 3729 | 14.3 | 31 | 12 |
| Mexico | Mx | 75-7 | 3985 | 6.1 | 27 | |
| Greece | Gr | 75 | 4464 | 5.8 | 10.8 | 1.5 |
| Ireland | Ir | 74-7 | 5205 | | 13.1 | |
| Spain | Sp | 79 | 6437 | 4.1 | 16.6 | |
| Italy | It | 74-7 | 7425 | 7.7 | 17.2 | |
| United Kingdom | UK | 74-7 | 8665 | 11.3 | 18.6 | |
| Australia | AL | 74-7 | 8850 | 9.2 | 18.7 | 3.9 |
| Austria | Au | 76-7 | 8929 | 14.5 | 19.2 | |
| Netherlands | NL | 71-3 | 9092 | 3.6 | 13.8 | |
| Finland | Fi | 74-7 | 9232 | | 13.6 | |
| Japan | Jp | 74-5 | 9447 | | 11.6 | |
| Belgium | Be | 74-7 | 9717 | | 12.6 | |
| Sweden | Sw | 78-80 | 9904 | 6 | 15.3 | |
| France | Fr | 74 | 9918 | 11.9 | 14 | |
| West Germany | Wg | 76-7 | 10708 | 10.3 | 12.3 | |
| Denmark | Dk | 74 | 10844 | 6.3 | 8.3 | |
| Canada | Cd | 74-7 | 12196 | | 14.7 | |
| United States | US | 74-7 | 12532 | | 4.9 | |
| Norway | No | 74-7 | 12623 | | 17.7 | |

Source: Short (1984); Summers and Heston (1988) for real GDP/head (RGDP)

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Appendix: Summary of seminar discussion

This paper was presented to the Brown Bag Series on Wednesday June 10, 1992. In the discussion, Newbery was asked whether aid should be concentrated on autonomous future oriented states, how these could be identified, and whether privatisation was still not desirable even though public sector enterprises in such economies were by world standards relatively efficient. Newbery replied that on the contrary, aid was needed to help create future orientation in subordinate states, perhaps by promoting autonomous institutions within such countries to support investment. While it was not difficult at a general level to identify future orientation, in some moderately autonomous states, PSEs may not enjoy sufficient support for efficient investment and pricing, and in such cases privatisation typically improved social returns, though the evidence suggested that for natural monopolies the quality of the regulatory environment (another key future oriented institution) was a prime determinant of the success of privatisation. Many of the gains from privatisation come from the need to explicitly create this regulatory framework, and its absence (along with many other future oriented institutions such as prudent banks) was one of the main obstacles to successful privatisation in Eastern Europe. The Catch 22 is that it seems to need an effective and autonomous state to create the institutions for a market economy, but systemic transformation typically occurs upon the collapse of state power.