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Reviewed work(s):

Source: *Economic and Political Weekly*, Vol. 32, No. 50 (Dec. 13-19, 1997), pp. 3199-3203+3205-3212

Published by: [Economic and Political Weekly](#)

Stable URL: <http://www.jstor.org/stable/4406178>

Accessed: 11/04/2012 04:56

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Efficiency of Privatised Firms

Evidence and Implications

Pankaj Tandon

As the debate on the role of public sector enterprises rages in India, it is worthwhile to ask what we might learn from the worldwide experience with privatisation, since this policy has been applied in other countries for some time. Does it work? Under what conditions does it work, and under what conditions does it fail to deliver the goods? How can the competing interest groups be simultaneously satisfied?

This paper is devoted to analysis of some of these questions, using evidence from around the globe.

I Introduction

INDIA has begun to re-examine the role of the public sector in the economy in the 1990s. When the economic reforms package was launched in the midst of an economic crisis in the middle of 1991, the losses of the public sector were highlighted as an important cause of the crisis.¹ This was not the first time that India had looked into the public sector question. Reference must be made to the major studies of the Public Administration Reforms Commission, headed by L K Jha, set up by Indira Gandhi in the 1980s, and to the Arjun Sengupta Report submitted shortly thereafter. Another dimension that received considerable attention was that of 'direct controls' vs 'indirect financial regulation', which was the subject of the influential Narasimham Committee Report of 1983-84. These have been discussed in Iyer (1989). The Sengupta Committee had recommended the system of Memoranda of Understanding with the government as a means of restoring operational autonomy, and this suggestion was accepted. The Narasimham Committee recommended a reduction of bureaucratic controls, and this was indeed done throughout the 1980s.

The economic crisis of the early 1990s however seemed to suggest that all was not well with the public sector even after all these efforts at reform from within. The reform package therefore spoke of privatisation as the answer to the problem of the public sector. Such an approach is part and parcel of the Washington consensus which underlies the structural adjustment package adopted by the Indian government. Interestingly enough, the idea of privatisation predates the economic reform process, as Geeta Gouri (1991) shows in her book. Interestingly enough, the institutional base for this work was the Institute of Public Enterprise in Hyderabad!

The reforms received, as expected, a mixed reaction, with the unions in particular taking

arms against the proposed changes in the public sector.² The government therefore did what it could without openly antagonising the various interests involved. One important part of this strategy was the disinvestment in shares of the various units, with favourable allotments to workers in many cases. This effort was indeed begun, but it ran into a series of scandals that forced the government to put the programme on the backburner.

After this the government shifted its focus to the publicly owned financial sector which consists of commercial banks and long-term financial institutions. This has followed the recommendations of the Committee on Banking Sector Reforms, headed by M Narasimham. Many useful changes were made, such as better provisioning systems and strengthening of the capital base of the banks.³ In the process, shares were issued, and now many of these banks have shares traded in the stock exchanges.

There was talk of an 'exit' policy for labour but it never got off the ground. A National Renewal Fund (NRF) was set up, but it never had anything like an adequate amount of money in it to fund both retraining exercises and the voluntary retirement schemes. Efforts at golden handshake schemes were made, but these required large injections of funds, which depleted the NRF. Often the best talent left, leaving the units worse off than before.⁴ Thus, although the debate on public sector reform in India had kept pace with international developments, efforts to take the practice to international levels were being faced with difficulties.

The latest step in this ongoing debate is the setting up of a Disinvestment Commission with a mandate to suggest the best way of disinvestment in the units referred to it. The commission has a distinguished membership. The chairman is G V Ramakrishna, who has vast experience in economic administration in India. The members include two distinguished managers of the public sector – D Basu, former chairman of the State Bank of India and M R R Nair, former chairman of the Steel Authority of India. There are

two distinguished economists in the commission, D M Nanjundappa and Suresh Tendulkar. Undoubtedly, the commission is well equipped to handle the complex problems involved. However, from the first meeting, there have been disputes, reported in the press, about the unhappiness of the members with the terms of reference of the commission. The members apparently feel that it is difficult to deal only with the units referred to the commission by the government: the public sector system should be studied in its entirety. Further, there is a feeling that to get a good price for the shares of the units, restructuring may be necessary as a precondition to disinvestment. There is also the vehement opposition of the left parties, which support the present union government, to both disinvestment and to opening up of the economy. To date, the debate is raging.

As the debate rages, it is worthwhile to ask what we might learn from the worldwide experience with privatisation, since this policy now has been applied in other countries for some time. Does it work? Under what conditions does it work, and under what conditions does it fail to deliver the goods? How can the competing interest groups be simultaneously satisfied? This paper is devoted to analysis of some of these questions, using evidence from around the globe.

Over the past 15 years, many countries have engaged in substantial programmes of selling state-owned enterprises [see Kikeri et al 1992 for a survey]. The common perception is that these programmes have been highly successful and hence desirable: for example, Boycko et al (1993) say: "There is virtually universal consensus that privatisation improves efficiency." The implication of such a perception is that similar programmes ought to be pursued or extended in countries where the state sectors are still significant in size.

To what extent is this perception justified by the actual evidence? This is the basic question addressed in this paper. There are

two reasons why this question deserves serious study. The first is that, prior to the adoption of the 'privatisation wave' by Margaret Thatcher's government in the UK, the empirical evidence on whether private firms were actually more efficient than public firms was rather weak. Further, there were theoretical arguments favouring each form of ownership. Thus the privatisation strategy adopted by the UK and since followed by so many other countries could hardly be said to have been based on undisputed theoretical grounds or on clear empirical observation. Now that some time has passed since the first enterprise privatisations took place, we might re-open the question by asking whether there is solid evidence that converting public firms to private ones enhances efficiency in one way or another.

The second reason to study this question is that an analysis of the actual evidence or experience with privatisation might help future attempts at privatisation design. If we can be clear as to the conditions under which privatisation works and those under which it doesn't, we will be able to learn from (other's) past mistakes. Further, it may be possible to improve upon past best results through a judicious use of policy.

II Previous Evidence Comparing Public and Private Firms

Let us briefly recall the empirical evidence on performance comparisons between public and private firms. The purpose of this section is not to survey this literature. Not only is this literature quite large, but there have been several surveys of it and even a "survey [of] the surveys" [Bos 1991:50-52]. This section therefore seeks only to remind the reader of what these surveys conclude. What is remarkable about the surveys and even the Bos survey of surveys is how different are the conclusions of the authors. De Alessi (1980) and Bennett and Johnson (1980) conclude that the evidence is clearly in favour of private enterprise. Borchering, Pommerehne and Schneider (1982) feel that the evidence indicates that private production is cheaper, but suggest that this might be explained by the lower level of competition that public enterprises generally face. They therefore argue that it is the level of competition, not ownership, that might make the difference. Millward and Parker (1983), Borins and Boothman (1985) and Boyd (1986) all conclude that there is no systematic difference in the efficiency of the public and private sectors. Boardman and Vining (1989), in what is the most comprehensive survey to date, conclude that the evidence

suggests an 'edge' for the private sector, but the results vary considerably across sectors.

In sectors where there is some evidence of

superior public efficiency (electricity and water), there is limited competition or the private firms are highly regulated. Evidence of the greater efficiency of [private companies] appears to be in the delivery of services where governments' subcontracts to the private sector and their monitoring costs – for example, for refuse collection, fire protection, and nonrail transit – are relatively low. The health-related literature also suggests greater efficiency for the private sector, but because few of the studies control for service quality differences – which is obviously important given the heterogeneous nature of these services – they are not wholly convincing (p 5).

Finally, Bos (1991) in his survey of all the surveys, remarks that it

is interesting to note that Boardman and Vining's conclusion with respect to the effects of a lack of competition is exactly the opposite of Borchering, Pommerehne and Schneider's (1982) *raisonnement* (p 52).

It is not clear that the conclusions of Borchering et al on the one hand and Boardman and Vining on the other are as opposed as Bos suggests. Suppose that the key spur to efficiency is competition, not the form of ownership. Then we are unlikely to detect a difference in the efficiency of public and private firms as long as we control for degree of competition. However, if we simply look at public firms versus private firms without controlling for the market structure, then on average private firms are going to appear more efficient because they operate on average in more competitive markets. I believe the conclusions of Borchering et al and Boardman and Vining are consistent with this hypothesis.

To elaborate a little further, this hypothesis implies that if we compare a public and private firm that compete against each other, we should not find a systematic difference between them. In some cases we might expect the public firm to be more efficient, in others the opposite might be true. Many of the often-cited papers on airlines (Jordan, etc) and railroads (Caves et al, etc) serve as examples of this kind in duopolistic or oligopolistic markets. Alternatively, if we look at public and private firms that operate as regulated monopolies, once again this hypothesis would predict that no systematic efficiency difference should be observed. Here the many papers on electric utilities and water can be cited as examples.

When comparisons of the relative efficiency of the private and public sectors more generally are made, the hypothesis suggests the private sector would come out looking better. Thus, for example, Vickers and Yarrow (1988) compare profitability of public and private industrial firms in the UK from 1970 to 1985 and find the average for private firms consistently higher (see Table 5.4, p 143).⁵ Kim (1981) provides a similar

result from the Tanzanian case. Ayub and Hegstad (1987) do a comparison of this kind for the 500 largest non-US firms, and find a similar result.

From studies such as this, however, we cannot reject the earlier hypothesis that degree of competition, and not ownership, drives efficiency, since the private sector firms do operate more frequently in competitive markets. To address the question adequately, we need more careful work that controls for the level of competition. Kim's paper on Tanzania is suggestive on this count because, although there is no formal mechanism to control for competition, the firms in the sample appear to be rather similar; the public firms were sampled from among those explicitly intended to operate on commercial lines. At least two other studies point in the same direction. Funkhouser and MacAvoy (1979) studied a sample of comparable public and private enterprises in Indonesia. They found profit margins in private firms were higher, even when controlling for industry and size. However, although unit operating costs for public firms were on average higher than those for private firms in the full sample, the cost difference disappeared once they controlled for size and industry.

Finally, Boardman and Vining updated the Ayub and Hegstad study, looking at the profitability performance of the Fortune 500 largest non-US firms, and attempted to control for degree of competition by using a four-firm concentration ratio where it was available. They found that public firms performed worse than private ones. The conclusion, however, needs to be tempered by the observation that the concentration ratio is a poor measure of the degree of competition we are looking for. Even a four-firm concentration ratio of 100 per cent may be consistent with sharp competition (the railroad or airline duopolies may be examples of this). The principle conclusion of Caves et al (1982) after looking at US and Canadian railroads was that the Canadian railroads (one public and one private, the two more or less equally efficient) were more efficient than their US counterparts, which were private; their reasoning was that this was due to the more highly regulated nature of the US industry as opposed to Canada's, which had been deregulated. Thus, in simply using a concentration ratio, Boardman and Vining may not be doing enough to control for the degree of competition. Further, the Boardman and Vining analysis is focused on profitability type indicators, which – as is well known – are not necessarily congruent with social efficiency.

The literature comparing public and private firms is therefore rather inconclusive. This is mainly a consequence of the difficulty in disentangling the effects of ownership from the effects of regulation and non-competitive

market structure. Nevertheless, I would echo Boardman and Vining's sentiment that the edge goes to the private sector. The evidence seems consistent with a hypothesis of the following type: The key factor driving performance is competition, not ownership. When public enterprises operate in markets where they have market power, they do just as well (or poorly) as private firms operating in similar markets under regulation. When markets are deregulated, the performance of firms – public and private – improves. The suggestion is that, if public enterprises operate in market-type environments, they perform well. However, at an aggregate level, even when an attempt is made to control for degree of competition, it seems the public enterprises come out looking worse. This may reflect the imperfect nature of the proxies for competition that are available to researchers. In particular, it may well be that public enterprises operating in ostensibly competitive markets nevertheless enjoy some monopolistic benefits, such as preferential treatment in winning government contracts.

In the next section, I will examine what light the literature on privatised firms can shed on this question.

III Evidence on Performance of Privatised Companies

Broadly speaking, the studies on privatised companies may be divided into two types:

(1) Pure case studies, where enterprise performance before and after divestiture is compared.

(2) Comparative studies, where enterprise performance after divestiture is compared to some benchmark.

In order to study the effects of a new economic policy successfully, and in order to be able to properly attribute observed changes to the economic policy under study, it would be desirable to have what statisticians call a 'treatment group', in this case firms that have been divested, and a 'control group', in this case firms that have not been divested but are otherwise similar to the members of the treatment group. Since the treatment and control groups differ (ideally) only in that one group was divested and the other was not, observed differences could, with some justification, be largely attributed to the divestiture.⁶ This option, unfortunately, is not open to us. Public enterprises being divested typically do not have 'twins' that are not being divested; they tend to be rather unique – often monopoly – enterprises. Thus it is difficult, if not impossible, to find a control group against which the performance of the divested enterprises could be compared. Some might solve this problem by comparing the performance of the enterprise before divestiture with its performance after divestiture, and attributing any observed

changes to the divestiture. This is basically what is done in most case studies. This approach, however, is applicable only in a stationary environment. In reality, economic conditions are constantly changing, and therefore changes in enterprise performance could be driven by changes in the economic environment (including other policy changes) rather than by policy changes such as divestiture.

The alternative, and I believe the preferable alternative, is to try to compare the performance of the privatised enterprise against some suitable benchmark; that is, we might try to create a control group. As was mentioned earlier, it is almost impossible to get a true control group, but we might get close. There are several possibilities. One might be able to look at a group of suitably chosen private firms to serve as the benchmark. Or one might look at public sector firms that were not privatised. Finally, it is possible also to construct a hypothetical firm as a benchmark, by creating a counterfactual to divestiture. The counterfactual would be the same firm had it not been privatised. All of these alternatives have been tried, with varying degrees of success. As a class, however, studies involving comparisons have the important benefit that it is possible to control for at least some of the other possible influences on performance.

I consider the two broad classes of studies in turn.

PURE CASE STUDIES

The most widespread information on privatisation experience comes from pure case studies, accounts of the sale of individual or groups of companies, with the authors' assessments of what were the unique features of the case and of what was the impact of privatisation. Many of these case studies have been presented at conferences, but remain unpublished, or are internal documents of organisations such as the World Bank. Nevertheless, many case studies have been published or are otherwise available, and we can learn something from them. However, it is not clear how generalisable are the lessons we might learn from them. Individual case studies have many important drawbacks as channels for studying the effects of privatisation. First, it is very difficult to compare alternative hypotheses. For example, if we observe after privatisation that a company's performance improves, we cannot be sure that the improvement was not primarily due to, say, the more rapid growth being enjoyed by the economy at the time, or by the policies of liberalisation and deregulation being followed by the government. Second, with case studies, there is a problem of selection bias. People tend to study only 'interesting' cases, and what

constitutes an interesting case is frequently a subjective judgment. Somebody who favours privatisation is more likely to write a case study of a privatisation success story than of a failure (and vice versa for someone who opposes privatisation). Selection bias can also be introduced by the firms being studied: the 'failures' may not be very forthcoming with information. Third, even if there is no selection bias, there may be problem of bias in the presentation and interpretation of information. When a fixed methodology to analyse a case is not pre-established, the researcher can consciously or unconsciously affect the interpretation of the available data.

The preceding discussion is not to imply that case studies are useless; only that their conclusions need to be seen with considerable caution. If all, or at least a vast majority, of cases yielded the same or similar conclusions, then collectively the case studies could provide a basis for some generalisation. Unfortunately, the available case studies on privatisation do not present such a uniform picture. I turn next to examine two of the most important studies of this class.

Adam, Cavendish and Mistry

Of particular interest is the series of case studies presented in Adam, Cavendish and Mistry (1992), (hereafter ACM). In this volume, the privatisation programmes of seven countries belonging to the British Commonwealth were studied, and each major company that had been privatised in these countries received some attention. To this extent, the cases in the ACM book do not suffer from very severe sample selection problems, since all the major divestitures in the subject countries were studied. As it happens, the privatisation record of these countries was somewhat thin, and so we do not have a very large number of cases to study. Nevertheless, there is a series of cases, studied by the same authors, and we find a mixed set of results.

For **Jamaica**, we have five somewhat detailed case studies: Soap and Edible Products (Seprod), National Commercial Bank (NCB), Caribbean Cement Company (CCC), Telecommunications of Jamaica (ToJ) and National Hotels and Properties (NHP).⁷ Of these, no clear case can be made that efficiency improved in any case, although NHP seems to furnish a plausibly positive story, in that the government started realising some returns, first in the form of franchising fees, and then in sale revenues. This was the one case in which, implicitly, competition was enhanced as the hotels under NHP were sold to different hotel operators. In none of the other cases was there any change in the market structure. NCB continued to operate in an oligopolistic market, while the other three continued to be monopolies.

Seprod and NCB, in fact, retained the same management, while at CCC and ToJ, foreign partners who were already playing a major role in the companies were the 'buyers'. In none of the four cases is there significant evidence of improved efficiency.

In **Trinidad and Tobago**, four privatisations are discussed: National Commercial Bank (NCB), Trinidad Cement, Trinidad and Tobago Telephone Company and the Iron and Steel Company of Trinidad and Tobago. The only significant performance improvement story is that of Trinidad Cement, which was 'shaped up' in 1987 while in public hands, turned a profit in 1988 and sold in 1989. Thus no case in Trinidad and Tobago provides evidence of improved performance after privatisation.

Eight or nine privatisations in **Malaysia** received coverage. In reviewing the evidence on performance, the authors conclude:

In the case of all the privatisations surveyed above, available evidence points to improved performance following privatisation, although frequently the improvement preceded the actual sale. Such improvements can be seen not only in financial measures (profits, turnover, dividend payments, etc), but also in a variety of operating and productivity measures. For example, improved operating efficiency in KCT is most easily measured in the reduction in turnaround times for container operation; in 1985 it was 11.6 hours, by 1989 it had fallen by 23 per cent to 8.9 hours. Similarly for the port as a whole, the average stay has fallen from 8 to 3.8 days, throughput was up, and Port Klang moved up from 11th to seventh position in terms of worldwide container port performance. In MAS, load factors have risen steadily since 1985-86, while revenue per employee rose by 20 per cent in real terms between 1985-86 and 1988-89. Similar improvements are evident in MISC where real revenue per employee rose by 32 per cent in the two years following privatisation, and the company began to pay dividends for the first time since 1981 (Tables 9.10 and 9.11). The problem of separating the causes of these improvements is difficult since most sales have occurred during a period of rapid economic recovery following the 1985-87 recession.

In fact, 1985 was the trough of a deep recession and 1988-89 looks like a peak. Therefore the problem of confounding the effects of privatisation with those of economic recovery are particularly severe here. Thus although the Malaysian experience is suggestive of the effectiveness of privatisation, no firm conclusion can be drawn on the basis of the analysis here.

There is discussion of two privatisations in **Papua New Guinea**. Papua New Guinea Shipping Corporation was insolvent in 1986, was sold to an Australian-controlled competitor and was subsequently integrated

into the new buyer's operations. Thus there is no evidence on performance; and no discussion was offered on the impact on the market. The second case, Niugini Insurance Corporation, appears to be a case study in how not to privatise. Bids were invited for this major insurer in March 1988, but in a secret arrangement, government announced its intention to sell the company to a group of Malaysian businessmen with no insurance background. When reinsurers announced they would no longer reinsure the company, demand for its policies collapsed, the sale deal fell through, and it took two years to restore even a modicum of confidence in the company again. It was not privatised.

None of the cases in **Sri Lanka, Kenya**, or **Malawi** is particularly informative. Sri Lanka sold a motor car distributor to a diffuse ownership with no management changes and no discernible effect on performance. Kenya had a case (Uplands Bacon Factory) in which the government tried to sell under pressure from the World Bank, but was unable to do so. The authors criticised the haste of the attempted sale as being instrumental in its failure. Malawi had had no substantive privatisation to date.

In conclusion, the set of cases studied by ACM do not provide any strong evidence on the effect of ownership on performance. In several cases from Jamaica and Trinidad and Tobago, no change was made in the market structure (in some cases even the management did not change) and there appeared to be no real change in performance. However, in Malaysia, under similar circumstances, some performance improvement is indicated. However, it is possible to at least partly explain this by the rapid economic growth enjoyed by Malaysia in the second half of the 1980s and the greater market orientation of government (and hence public sector) policy. It would be vital to study how Malaysia's non-privatised public sector companies performed in this period. Finally, Jamaican hotels seem to give one clearer example of a classic privatisation and some impressionistic evidence of improved performance is provided. Here again, however, the degree of competition was obviously also going up as the hotels were privatised, and there was the confounding effect of a rapid improvement in the Jamaican tourism industry. Thus the ACM cases fall victim to the fundamental problem with individual case studies; it is very difficult to establish a true association.

Meggison, Nash and van Randenborgh

The logical extension of the individual case study approach, looking at an individual firm's performance before and after privatisation, is to look at such a comparison for a large number of firms simultaneously. The basic idea behind this approach is that,

even though we can conclude very little from individual case studies by looking at performance before and after privatisation, we can say something by looking at many at the same time, since then the effects of confounding factors might be expected to 'average out'. This approach has been adopted in a valuable paper by Meggison, Nash and van Randenborgh (1994) (hereafter MNR), who studied a sample of 61 companies worldwide that had been privatised through share issues. Specifically, MNR solicited data from 149 companies identified by Candoy-Sekse and Palmer (1988) as privatised by share issue. Many of these were excluded later for various reasons such as data incompatibility. However, no response was received from 36 companies, of which 24 were "relatively small companies located in developing countries". Thus, although the authors may well be right in being "confident that the sample [they] have collected ... is representative of at least the largest and most economically important privatisation", there may be a self-selection problem with regard to the developing country companies, only 12 of which made it into the sample as compared to 24 that did not respond.

Regardless of the sample problems, MNR have nevertheless gathered an extremely useful data set for looking at individual company comparisons in an aggregate fashion. Their basic test is to look at various measures of performance for the two or three years just prior to privatisation compared to the same measures for the two or three years after privatisation. They compare the average pre-divestiture performance with the average post-divestiture performance for each company and then use the Wilcoxon Signed Rank test to see if the median change in performance is zero.

MNR used two measures of efficiency: inflation-adjusted sales per employee and real net income per employee. Of course, as partial productivity measures, these are only suggestive of efficiency measures of greater interest, such as total factor productivity or allocative efficiency. Nevertheless, these were the best available measures given data limitations. MNR find a significant improvement in efficiency – about 10 percentage points in average sales per employee and about 25 percentage points in net income per employee. They view these results as indicating "strong performance improvement". Certainly others also have seen the MNR paper as strongly supportive of the desirability of privatisation.⁸

However, I believe the MNR results need to be interpreted with much greater caution. The performance improvements they observe are indeed suggestive of the efficacy of privatisation, but there are many caveats one must keep in mind.

The most important caveat is that intertemporal comparisons of this sort do not control for other changes that may be taking place contemporaneously. As was seen in the context of the Malaysian privatisations earlier, it is difficult to separate out the effect of privatisation from more general changes such as economic growth or improved economic policies. Now a supporter of MNR's approach might argue that, by looking at a relatively large cross-section of companies from many countries, MNR have implicitly minimised the impact of such random effects because the confounding effects should 'average out'.

There are two problems with this argument. First, as MNR themselves note, "privatisation is [often] accompanied by deregulation and market opening". If privatisation is correlated with more market-oriented policies (as I believe it almost always is), the effects of these policies will not average out, and so the MNR results could simply be picking up the effect of these liberalisation policies. Second, it may be that privatisation activity is also correlated with economic growth because governments find it easier to sell their enterprises during economic booms. There are numerous examples to suggest that this is true;⁹ it would be particularly true of stock market sales on which MNR focus. Thus it could well be that financial efficiency measures of the kind used by MNR are improving largely because of general economic conditions, not privatisation.

A second caveat, noted by MNR, is that they may be "not documenting increased efficiency...but rather increased price per unit sold". They argue that this is not the case because (i) they did not observe major price increases despite an intensive news collection effort; (ii) many utilities were immediately regulated via RPI-X, which tends to hold a cap on price increases, (iii) almost three-quarters of the sample companies operate in internationally competitive industries, and (iv) no company reported a significant change in pricing policy. Although such arguments are mildly convincing, many doubts still remain. For three of the sample companies which have been studied elsewhere¹⁰ some price increases did occur, although not in forms that might be immediately obvious. British Airways, for example, following its takeover of British Caledonian, was able to raise domestic yields.¹¹ Telefonos de Mexico enjoyed a massive price increase just prior to privatisation.¹² Further, although RPI-X regulation does appear to put a cap on prices, in practice prices can effectively be raised because the firm is normally free to rebalance prices within the 'basket'. Both British Telecom and Telmex were able to rebalance their prices within the RPI-X framework and thereby raise revenues without raising so-

called 'average prices'.¹³ Thus MNR could well be picking up at least some significant price effect in their efficiency measures.

A third set of comments relates to MNR's efficiency results at more disaggregated levels. They found sales per employee went up significantly for competitive industry firms, but not for firms operating in non-competitive (regulated) industries. (See their Table IV).¹⁴ They do not report their findings on net income per employee, which – judging by the fact that only 70 per cent of the sample exhibited increased net income per employee, as compared to 86 per cent exhibiting increased sales per employee – suggests that the net income increases proved insignificant at the more disaggregated level. This evidence therefore is consistent with the hypothesis generated in the previous section, that private firms are not significantly more efficient than public firms in non-competitive, regulated markets.

Further, the median increase in sales per employee was significant for firms headquartered in OECD countries, but not significant for the non-OECD firms. Although this latter insignificance is driven by the small sample, it is yet the case that the point estimate for the median increase was only 7 percentage points for the developing country firms, as compared to 11 percentage points for the OECD firms. Combined with the sample selection problems mentioned earlier (the high non-response rate of LDC firms), this suggests that the applicability of these results for developing countries is more questionable than we might like. The fact that the study is of companies privatised through the stock market (an option much less available to many less-developed countries) is a further factor pointing in the same direction.

In addition to the results on efficiency, MNR report a series of results on other effects of privatisation. For almost all sub-samples, and the whole sample, profitability appears to go up. Once again, however, the sub-sample of firms operating in regulated industries shows only an insignificant increase in profitability. To the extent that profitability tells us anything about efficiency, we do not have strong evidence for improved efficiency in the regulated markets.

Capital spending as a proportion of total sales rises significantly for the sample, and for the sub-sample of competitive industries, but rises only insignificantly for the regulated firms. This last result was surprising, since the need for massive investment has frequently been cited as a reason for privatisation of utilities such as telecoms.

In what they regard as perhaps their "most surprising and important results", MNR find that employment tends to increase after privatisation, although by an insignificant

amount. Further, they find a tendency for the level of employment to rise more or less continuously over the seven-year period centred around privatisation. Once again, there is a confounding problem; the upward trend in employment suggests that indeed there is a correlation between privatisation and economic growth – the increased employment may be more reflective of 'boom' conditions. Recall that sales per employee are showing an increase, so sales themselves are obviously growing very rapidly. It is more likely that this is due to a favourable economy rather than privatisation.

The MNR paper, being the only one of its kind, has filled an important gap in the literature. By comparing the performance (albeit by rather imperfect measures) of a large number of enterprises before and after divestiture, they have taken the case study approach to its logical, aggregative conclusion. However, by its very nature, this approach can give only suggestive conclusions at best, because of its inability to isolate the effects of privatisation from those of improved policies or of economic growth which may be highly correlated with the factors leading to privatisation. Thus, by showing improved performance after privatisation, this approach cannot persuade us to truly reject the hypothesis that public and private firms perform equally well. Further, because the MNR results were so weak, and mostly insignificant, for firms operating in regulated industries, the hypothesis that public and private firms operate about the same in regulated markets actually receives some mild support from this paper. For those who do wish to interpret the MNR results as supportive of divestiture, the results certainly suggest that less should be expected in non-competitive markets.

Concluding Remarks on Pure Case Studies

Besides the studies of ACM and MNR, there are a wide range of individual case studies, some of which have already been mentioned in our discussion. It is not only infeasible to track them all down and discuss them, it is also unnecessary, since ultimately such studies will be unconvincing. We can find any number of success stories (such as Ivan Bergeron's discussion of the Togo steel case – was success due to privatisation or to the special conditions granted by the government?) or 'failures' (such as the study of Lan-Chile by Ricardo Paredes-Molina and Ravi Ramamurti – Did the Chilean government have to bail out the company to save it from bankruptcy or might it have survived and come out stronger?), and at the end there will be more questions than answers.

In conclusion, therefore, it appears that the case studies of privatisations, like the previous

literature on public versus private firms, give the slight 'edge' to the privatised firms. But the result seems inconclusive, and it is particularly weak for firms operating in regulated markets.

COMPARATIVE STUDIES

It turns next to consider studies that improve upon the intertemporal case studies by comparing the performance of privatised firms against alternative benchmarks, thereby attempting to control for major environmental variables such as government policy or economic conditions. The alternative benchmarks have been of three types: (i) firms that were private throughout the time period under consideration, (ii) firms that remained public throughout, and (iii) hypothetical counterfactuals of how the privatised enterprises would have performed had they not been privatised.

Benchmark: Private Firms

The only study of which I am aware that compares the performance of privatised firms with that of private firms is by Hutchinson (1991). In this paper, the performance of six privatised UK firms was compared with private sector firms in the same industries, to see whether privatisation led to an improvement in the relative performance of the enterprise. The firms included are shown in Table 1.

Once again, rather unsatisfactory measures of performance were used. They were labour productivity, profitability, capital intensity and the growth rates in labour productivity and capital intensity. The results were mixed. National Freight and British Airways had growth rates in labour productivity after privatisation higher than their rivals', Ferranti and Rover continued losing ground to their competitors, and British Aerospace and Rolls Royce stayed about the same. On balance, therefore, the results of this paper are consistent with the hypothesis that, controlling for market structure, there is no systematic difference in the performance of public and private firms.

It is worth noting that ACM compared the stock market performance of Jamaica's National Commercial Bank with its chief private sector competitor BNS, and found BNS outperformed NCB by a wide margin.

Benchmark: Public Firms

A very logical benchmark against which to compare the performance of privatised firms is other public sector firms that have not been privatised. By such a comparison, it is possible to control at least partially for effects of general economic growth and of the overall orientation of government policy. Of course, industry-specific differences may arise, rendering the comparison suspect. Nevertheless, it seems there is less of a

confounding problem here than in the straight intertemporal comparisons.

In this light, the work of Bishop and Kay (1988 and 1991) is particularly valuable. They compared the performance of the privatised UK companies with that of firms that stayed in the public sector, and on the whole found no strong evidence to indicate that the privatised firms did better.

They first looked at profitability, as measured by return on capital employed (ROCE) and return on sales (ROS). They found that both ROCE and ROS were generally quite a bit higher among the privatised companies than among the public sector ones, but this had been true even before the companies had been privatised. Thus it appears that the causality ran the other way: the more profitable firms were sold early, leaving the less profitable ones in the public sector. Of the privatised companies, eight showed an increase in ROS, three a decline. For the five public sector companies, four showed an increase, one a decline.

A better measure of performance, as argued by Bishop and Kay also, is total factor productivity (TFP). This eliminates the effects of price regulation. All companies showed higher TFP growth in the 1983-90 period than during 1979-83. More important, the highest rate of TFP growth was shown by British Steel, which was privatised only in December 1988,¹⁵ and more generally, the firms privatised early seemed to be somewhat poorer performers. Table 2 shows the ranking of the enterprises by annual TFP growth during 1983-90 (asterisks indicate public sector companies).

As the table shows, the public sector firms turned in a creditable performance! What was driving this is clear; employment in the public sector companies fell 33 per cent during 1979-88, while in the privatised firms it increased marginally. Thus the TFP effect seems to stem not from industry-specific factors, but rather from resolute policy on the part of the government to improve public sector efficiency. Unfortunately, Bishop and Kay do not provide TFP calculations for the privatised firms operating in competitive industries. The evidence they provide therefore suggests once again that, at least in monopoly industries, public sector firms

perform more or less equally well as privatised firms.¹⁶

Another study which compares the performance of privatised firms with firms that remained public is Lorch (1991). In some respects, the sample Lorch worked with seems ideal. He compared the performance of 24 privatised textile mills in Bangladesh with 35 other mills that the government did not privatise. Thus his 'treatment' and 'control' groups were very similar - they were all textile mills that had been nationalised in the 1970s, some of which were now privatised (in 1983-84), and some of which remained in government hands. However, Lorch made no attempt to identify the reasons why particular mills had been privatised and why others had not. Thus it might be plausible to suppose that the more efficient mills were the ones attractive to private buyers,¹⁷ creating a systematic bias in the sampling. Further, Lorch used rather unconventional measures of performance. He measured static efficiency in four functional areas: procurement, production, sales, and support functions. 'Efficiency' is defined as 'cost-advantage'. The measurement of this cost-advantage is based largely on interviews. In addition, Lorch looked at dynamic efficiency by looking for investment in new capacity, technological upgrading and human capital development. No assessment is offered as to why these things are necessarily desirable, particularly capacity expansion.

Because of its rather unclear methodology, the Lorch study cannot be taken to be very definitive. Nevertheless, the results should be recorded. Private mills were found to be moderately more efficient in his static sense,

TABLE 2: TFP GROWTH RATES IN UK COMPANIES

	1983-90	1979-83
British Steel*	7.5	4.6
British Coal*	4.6	-0.8
British Rail*	3.7	-2.9
British Telecom	3.7	3.0
Post Office*	2.7	1.7
Electricity Supply*	2.6	-0.3
BAA	2.6	-1.6
British Gas	2.2	-1.0

Note: *denotes companies not privatised or privatised late.

Source: Bishop and Kay (1991), Table 8, p 20.

TABLE 1: HUTCHINSON'S INDUSTRY GROUPING

Aerospace	Electronic and Electrical	Auto Making	Freight Moving	Aviation
British Aerospace*	Ferranti*	Rover* Dev Grp	Transport	British Airways*
Rolls Royce*	Phillips Plessey*	Ford	National Freight	British Caledonian
Dowty Elec	Thorn EMI	Vauxhall		
Smiths Ind	Standard	Peugeot		
	Tel and Cable			

Note: *Indicates the firms in the experimental group.

Source: Hutchinson (1991), Table 6.1, p 89.

but no more so in the dynamic sense. Thus Lorch concluded that the Bangladesh textile industry does not offer a very strong endorsement of privatisation as far as its efficiency implications are concerned.¹⁸ To this extent, the Lorch results are consistent with those of Bishop and Kay.

Benchmark: Hypothetical Counterfactual

Comparing the performance of privatised firms with already private firms or with firms that were not privatised will always be prone to the criticism that the 'control group' and 'treatment group' are too dissimilar to permit a valid comparison. An alternative benchmark, therefore, would be the hypothetical performance of the privatised firm had it not been privatised. Two noteworthy studies employing this technique are the study of Nippon Telegraph and Telephone (NTT) by Takano and the cross-country study by Galal, Jones, Tandon and Vogelsang.

Takano (1992) studied the privatisation of NTT. NTT was converted from a public corporation to a joint-stock company in April 1985. Starting in late 1986, shares of the company were sold through the stock market in three tranches;¹⁹ by fiscal 1990, government's shareholding had been reduced to about two-thirds of the shares. Thus the 'privatisation' of NTT was very much partial in nature; control of the company did not change hands. Simultaneous with the privatisation of NTT, government introduced significant competition and deregulation in essentially all the markets in which NTT operates. As Takano notes, attributing observed changes to privatisation therefore becomes rather difficult.

Nevertheless, Takano attempts to carefully construct a counterfactual to the privatisation scenario, where he explicitly allows for the introduction of competition. He identifies two critical differences between the privatisation and counterfactual (non-privatisation) scenarios:

- (1) Non-operating income.
- (2) Personnel expenses.

Specifically, he concludes that in fiscal 1990, NTT saved \$1.23 billion by reducing non-operating losses, and \$893 million in personnel expenses. He therefore suggests that privatisation led to a substantial performance improvement of over \$2.1 billion for that year alone. This is more than two-thirds of NTT's actual net income in 1990 of \$3.2 billion. The conclusion of the analysis is that the privatisation made a substantial difference to performance.

Before we can accept this conclusion wholeheartedly, however, some comments are in order.

The first point to note is that Takano takes 1985 as NTT's first post-privatisation year. Thus he is implicitly taking the corpo-

ratization of NTT in April 1985 as the privatisation event. To many, 'corporatisation' of a public enterprise is viewed as a type of public enterprise reform, not a privatisation. Certainly no ownership change is (or was in the NTT case) involved. Indeed, throughout the study period, NTT remained majority-owned by the Japanese government. No management changes were made, although a CEO from the private sector had been appointed in 1981. It is therefore arguable whether the 'privatisation' of NTT is substantially related to any ownership change (even in the form of a minority private shareholding) or to government's determination to run the company along more commercial lines.

The second point relates to the concept of 'performance' used by Takano, maximising the private income of NTT. Whether this is the notion of performance most relevant to economic analysis is questionable. In particular, the two 'performance gaps' in the counterfactual scenario are higher non-operating expenses and higher personnel expenses. The privatised NTT lowered non-operating expenses primarily through rescheduling of debt at lower interest rates, thereby bringing about a substantial reduction in interest costs. Had this rescheduling not taken place, however, the holders of NTT debt would have been richer by exactly the amount saved by NTT; assuming all the debt was held domestically, Japan as a whole would have been no worse off. It is unclear therefore whether the saving in interest expenses should be seen as a performance improvement from the social point of view. Of course, a saving in personnel expenses could be seen as indicative of a productivity improvement if labour was being used more productively; we will return to this later.

A third point relates to the actual calculation of the saving in non-operating expenses. We are given very little detail here, so a precise analysis is impossible. We are told that, in the counterfactual scenario, "[i]t is assumed that little progress would be made at reducing long-term debts... Thus, it is... assumed that non-operating expenses would be improved only at the preprivatisation pace" (p 98). What exactly the 'preprivatisation pace' was is unclear. However, what is known is that, during the period 1982-88, interest rates came down dramatically. For example, Japanese government bond yields fell from 8.06 per cent in 1982 to 4.27 per cent in 1988,²⁰ with the biggest decline occurring between 1985 and 1986 (from 6.34 per cent to 4.94 per cent, a 22 per cent decline). Whether market conditions would have permitted NTT to re-organise its debt prior to 1985 is a question that deserves examination. Also, pushing the privatisation episode to late 1986 might also alter that analysis of privatisation's impact.

Finally, a point about the decline in personnel expenses. These were lower in the privatised NTT because of a decline in the number of employees. We are not told what exactly is assumed for the employment level in the non-privatisation scenario, except that it "is assumed that the cutback in personnel... would not be promoted" (p 97). This may be taken to mean that the level of employment was left unchanged. However, looking at Takano's Table 5-15 (p 70) we see that employment fell by 9,700 in 1982-84, another 16,000 in 1984-86 (which could be regarded as pre-privatisation years) and then another 40,000 in the four years 1986-90. It is clear that the process of cutting back personnel started out in a manner unrelated to privatisation, indeed Takano mentions this as something that the new CEO in 1981 had begun. If one looked at the trend in personnel cutbacks, perhaps most could be explained as belonging to this one process. Further, nearly 14,000 workers were 'eliminated' by being transferred to NTT subsidiaries, including 6,800 in 1988 when NTT's data communications division was spun off as a subsidiary. Obviously, 'reducing' the number of employees by spinning off divisions as wholly-owned subsidiaries is not a true personnel reduction. Between the trend set in motion in 1981 and the transfer of employees to subsidiaries, perhaps much of the reduction in employees could be accounted for. Takano's calculations on the tremendous saving in personnel costs due to privatisation are therefore suspect.

In summary, considerable questions remain about Takano's conclusion that the performance of NTT improved dramatically following privatisation.

Galal, Jones, Tandon and Vogelsang (1994) (hereafter GJTV) provide a set of cases from four countries - Chile, Malaysia, Mexico and the UK. They examine the performance of each of three privatised firms in each country and compare it to a hypothetical counterfactual of how the firm would have performed had it not been privatised. This approach has the important benefit of controlling, at least in principle, for environmental effects such as economic growth or government policy. At the same time, it pays a price because the construction of the counterfactual involves a significant amount of subjective judgment, thereby leading to the possibility of conscious or subconscious bias. Further, because the construction of the counterfactual is extremely time- and data-intensive, only a limited number of specific cases could be studied, thereby exposing the study to sample selection problems.

Nevertheless, the GJTV study made several other advances. Notably, this is the first study to look at the overall welfare impact

of privatisation rather than just the performance of the enterprise. Indeed, because the authors were aiming for this much more comprehensive efficiency concept, they had no alternative but to construct a counterfactual. In looking at the welfare impact of the privatisation of a large firm (say a telecommunications firm), there is no way to infer this by looking at the behaviour of other firms in the public sector. The discussion by Clifford Winston (1993), in his review of the welfare impact of deregulation in the US, applies equally to the study of the welfare impact of privatisation:

simply comparing the economic welfare of affected groups before and after deregulation, as is frequently done in the popular press, fails to account for the effects of contemporaneous changes in other economic factors, such as the business cycle and technological trends, that also affect welfare. Such changes should be isolated from the analysis to the extent that they may have occurred independently of the change in regulatory policy. Empirical assessments of the actual effects of deregulation therefore require a counterfactual approach. The counterfactual approach isolates external economic effects by measuring the effect of one policy, e.g. deregulation, on affected groups' welfare during a particular time and comparing it with the effect that the alternate policy, regulation, would have had on their welfare during the same time.²¹

Replace the word 'deregulation' by 'privatisation', and the same argument applies here.

In looking at the total net welfare impact of privatisation, GJTV are able also to provide a disaggregation of the distribution of that welfare impact among different groups of economic actors, such as consumers, workers,

the enterprise-owners, competitors, and the government. Finally, they are also able to disaggregate the welfare impact by the sources of the welfare changes, such as price changes, changes in the level of investment or employment, productivity changes, and so on. In this way, they provide some insight into exactly how privatisation might raise or lower welfare.

The companies studied by GJTV, and their basic results, are presented in Tables 3 and 4. They found welfare improvement in 11 of the 12 cases; the one exception was Mexicana Airline, where the new owners made many mistakes, including particularly the launching of an ambitious investment programme just as demand growth slowed down and competition from another privatised airline (Aeromexico) heated up. A note of explanation of what the numbers in the tables mean. In order to present their results in a way that meaningful comparisons could be made across countries, GJTV calculate the welfare impact of privatisation (which is the present value of a stream of welfare effects into the future), multiply by an appropriate discount rate (thereby finding the annuity equivalent of that welfare impact) and then divide by the level of sales for that enterprise in the last year prior to privatisation. Thus a stated figure of, say, 15 for the welfare impact means that their estimate is that the social welfare rises by an annual amount, stretching indefinitely into the future, equal to 15 per cent of pre-privatisation sales.

The finding of a positive welfare impact in 11 out of 12 cases seems like a strong endorsement of privatisation, and indeed that is the interpretation normally accorded the study.²² The natural question to ask is: Does the GJTV study clearly contradict all

the previous literature, which seemed so ambiguous? Further, although the sample is thin on firms in competitive industries (there are only three), the evidence is that the welfare impact in these industries is small, while some of the monopoly firms exhibit very high welfare improvements. This too seem to fly in the face of previous studies, which showed no substantive performance difference in regulated markets.

I would argue that the GJTV results are not as dramatically different from previous work as might appear. First, note that no previous work has studied the net welfare impact. Rather attention has been paid to only very limited concepts of firm performance, such as profitability, labour productivity or total factor productivity. Second, if we look at the column marked 'Productivity' in Table 4, we see that three of the 12 sample firms exhibit no productivity improvement, and another four exhibit only very small productivity improvements. Thus only five of the 12 firms show significant productivity improvements (the word 'significant' here has no statistical content), with 7 showing no or little improvement. This conclusion is fairly consistent with previous studies.

What then is the lesson to be learned from the finding that 11 of 12 firms had a positive welfare impact? I believe the important point to note here is that welfare may be improved in a number of different ways, some of which may or may not show up in more traditional 'performance' measures such as productivity. Two particularly important channels for welfare improvement found by GJTV were rapid investment or product diversification, allowing the firm to satisfy unmet demands of various kinds and price rationalisation (I believe Megginson,

TABLE 3: WINNERS AND LOSERS FROM DIVESTITURE IN THE GJTV STUDY

Country and Enterprise	Domestic					Net Welfare Change	Foreign			World Net Welfare Change
	Government	Buyers	Consumers	Workers*	Others		Buyers	Consumers	Others	
<i>United Kingdom</i>										
British Telecom	2.70	3.10	4.90	0.20	-0.10	10.80	1.20	0.00	0.00	12.00
British Airways	0.90	1.40	-0.90	0.30	0.00	1.70	0.40	-0.50	0.00	1.60
National Freight	-0.20	0.80	0.00	3.70	0.00	4.30	0.00	0.00	0.00	4.30
<i>Chile</i>										
CHILGENER	-1.40	2.00	0.00	0.10	0.00	0.70	1.40	0.00	0.00	2.10
ENERSIS	-1.60	7.60	2.20	3.90	-7.40	4.60	0.60	0.00	0.00	5.20
CTC	8.00	1.00	131.00	1.00	4.00	145.00	10.00	0.00	0.00	155.00
<i>Malaysia</i>										
Malaysian Airline Systems	5.20	2.00	-2.90	0.40	0.00	4.60	0.80	0.80	15.80	22.10
Kelang Container Terminal	37.60	11.50	6.20	7.00	-11.90	50.40	2.90	3.10	-3.00	53.40
Sports Toto Malaysia	13.60	10.70	0.00	0.00	-13.00	10.90	0.00	0.00	0.00	10.90
<i>Mexico</i>										
Telefonos de Mexico	13.30	11.40	-62.00	15.60	28.30	6.60	25.10	0.00	17.90	49.50
Aeromexico	62.30	3.90	-14.60	2.40	-2.30	52.90	1.80	-6.20	0.00	48.50
Mexicana de Aviacion	3.50	-1.40	-7.70	0.00	3.20	-2.40	-1.30	-3.30	0.00	-7.00

Notes: All figures are the annual component of the perpetuity equivalent to the welfare change, expressed as a percentage of annual sales in the last predivestiture year.

*Includes workers both in their role as wage earners and as buyers of shares.

Sources: Author's calculations; Galal, Jones, Tandon and Vogelsang (1994), Table 23-1, p 528.

et al were also picking up some of this effect). Both of these channels are consistent with a more commercially-oriented strategy of managing the enterprise.

This said, the next obvious question is: Are these sorts of benefits related to private ownership *per se* or to a market-oriented economy? In other words, could the welfare gains be attributed to the transfer of ownership, or could there be other possible explanations for them? This question is difficult to answer since all four countries examined in the study were engaged in re-orienting the economy significantly towards markets, simultaneously with their privatisation programmes. There has been some misunderstanding on this point, and it therefore bears some discussion. What GJTV set out to do was to compare the actual and projected performance of the divested enterprise with what its performance would have been absent divestiture. Now this counterfactual (performance absent divestiture) is obviously open to judgment. In particular, what should be the assumption with regard to how government policy will proceed? Should we assume that government will do the best it can short of divestiture? Or should we assume a continuation of government policies as they can be observed up to the divestiture event? GJTV opted for the second approach, no doubt because they felt the first would be highly speculative. That they did not adopt the first approach is made clear. For example, in concluding their discussion of British Telecom, GJTV say: "note that while assessing what was

accomplished by divestiture, we have implied nothing about what could have been accomplished by reform under continued public operation". Similarly, in summarising their results, they point out that "many of the gains commonly associated with divestiture could also be achieved in theory through the effective implementation of public sector reforms, with an emphasis on the application of market principles to the public enterprises".²³ Indeed, in the Mexican cases, they explicitly acknowledge that it is difficult to separate the effects of the many changes that government was implementing simultaneously, and so the welfare change estimates should be seen as accruing to the entire policy package that included divestiture, liberalisation, and deregulation. Whether most or all of the estimated gains might have occurred anyway without privatisation but through a re-orientation of policies to emphasise market forces, therefore remains an open question. Note that this last statement does not mean that the welfare gains cannot be attributed to divestiture, only that GJTV do not establish that the gains can be so attributed.

In conclusion, therefore, the GJTV study, while providing a series of cases studied in great depth, and with a conceptual framework that attempts to solve some of the knotty problems of attribution, leaves unanswered the fundamental question being examined here: is good performance affected substantially by private ownership or is it primarily determined by the presence of meaningful competition, and the orientation

of firms in the economy to respond to price signals? In this context, it is useful to recall (i) the experience particularly of the Jamaican privatisation (where most privatisations were carried out with absolutely no change in market structure, government intervention continued unabated, and no substantive changes in efficiency were observed) and (ii) the Bishop and Kay calculations showing that non-privatised public firms in the UK exhibited productivity improvements very comparable to those of the privatised firms. In the light of these results, the GJTV results are entirely consistent with a hypothesis that says that the primary motive force behind improved performance is the creation of more competition and a reliance on a commercial orientation, not the transfer of ownership.

IV Implications for Design of Privatisation Programmes

In the previous section, I have argued that the evidence from the study of privatised firms is not significantly different from the evidence that we previously had from comparisons of public and private firms. There seems to be an 'edge' for the private (or privatised) firms, but this edge seems difficult to establish very conclusively, particularly for regulated monopolies. In this section, I will elaborate somewhat on this interpretation of the evidence, and then discuss some tentative implications for the design of privatisation programmes.

TABLE 4: PRIMARY SOURCES OF WELFARE GAINS AND LOSSES IN THE GJTV STUDY

Country and Enterprise	Welfare Changes in Operating Performance						Non-operating Performance	Fiscal and Other Macro Shadow Effects	Interaction Effects	World Net Welfare Change
	Due to Quantity Changes			Due to Price Changes						
	Output	Productivity	Investment	Outputs	Indirect Taxes	Wages				
	Endogenous Demand									
<i>United Kingdom</i>										
British Telecom	0.00	5.10	9.00	7.20	0.00	0.00	0.00	0.00	-9.30	12.00
British Airways	0.00	0.00	2.40	-1.50	0.00	0.00	0.00	0.00	0.70	1.60
National Freight	0.00	0.50	4.00	0.00	0.00	0.00	0.20	0.00	-0.40	4.30
<i>Chile</i>										
CHILGENER	0.00	0.00	2.10	0.00	0.00	0.00	0.00	0.00	0.00	2.10
ENERSIS	1.50	0.00	0.00	3.70	0.00	0.00	0.00	0.00	0.00	5.20
CTC	48.20	97.30	9.60	0.00	0.00	0.00	0.00	0.00	0.00	155.10
<i>Malaysia</i>										
Malaysian Airline Systems	0.00	22.70	0.00	3.40	0.00	0.00	0.00	0.00	-3.70	22.10
Kelang Container Terminal	15.80	0.00	28.20	0.00	0.00	(6.90)	0.00	0.00	9.30	53.30
Sports Toto Malaysia	10.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.90
<i>Mexico</i>										
Telefonos de Mexico	0.00	0.00	19.80	16.30	0.00	1.90	0.00	11.50	0.00	49.50
Aeromexico	0.00	0.00	48.10	0.40	0.00	0.00	0.00	0.00	0.00	48.50
Mexicana de Aviacion	0.00	-8.90	2.80	-0.20	0.00	0.00	0.00	0.00	-0.70	-7.00

Note: All figures are the annual component of the perpetuity equivalent to the welfare change, expressed as a percentage of annual sales in the last predivestiture year. Figures may not sum to totals because of rounding. The welfare impact is indicated solely under the initiating variable and not under the accommodating variable. For example, if price changes were accommodated by greater capacity utilisation or investment, the whole welfare impact is listed in the price column. Interaction or cross-product effects appear in the last but one column, so the world net welfare change is the sum of the other columns. The sign (positive or negative) refers to the direction of the welfare effect, not the change in the variable. For example, a positive price effect means welfare improved as result of the price changes, not that the prices rose. Parentheses indicate that the variable changed significantly in the indicated direction, but with negligible net welfare impact.

Source: Galal, Jones, Tandon and Vogelsang (1994), Table 23-2, p 532.

Let us briefly recall the theoretical debate surrounding the efficiency aspects of public versus private ownership.²⁴ The most fundamental argument for the efficiency of private firms is that, as residual claimants to a firm's revenues, the owners have every incentive to behave efficiently. Problems arise, however, in the modern corporation where ownership is typically divorced from managerial control. There is therefore a principal-agent problem relating to how the principal – the body of diffuse shareholders – can monitor and control the agent, the company management. There exist several mechanisms in the private sector that provide at least partial solutions to this problem: first, there are clear signals through the stock market when managers are performing poorly; second, mechanisms such as takeover and bankruptcy provide a corrective for poorly-performing managers. All of this applies to firms facing competition. The key component of the market-oriented control mechanism is the presence of a clear signal when the firm is performing poorly; this signal is the firm's profitability, reflected in its stock price, and particularly seen in comparison to that of its competitors. Under regulation, however, this signal loses most of its clarity and strength. Specifically (i) there are no longer competitors against whose performance the financial markets can compare the performance of the subject company, and (ii) it is much easier for the managers to hide poor performance behind the regulatory veil, either by using their superior information to extract a favourable regulatory regime, or by explicit or implicit collusion with the regulator. This set of arguments goes at least part of the way in explaining why we might expect private competitive firms to perform reasonably well, but private regulated firms to perform relatively poorly. Public enterprises are also characterised by a principal-agent problem in that the government (as principal) cannot always direct the management (the agent) to behave in precise ways. The principal-agent problem in the case of public enterprises seems potentially to be much more severe than that of private enterprises, for at least two reasons:

(a) The government itself is not a monolithic, unified body, but rather an organisation representing many interests (the problem of multiple principals). There is therefore often no unanimity on the goals of the enterprise (unlike private enterprises, where profit maximisation can safely be assumed to be in the interest of all shareholders). The problem of government interference for political motives falls into this class of problems.

(b) There is no 'automatic' signalling device such as the stock price to signal poor performance.

Many public enterprise reform strategies are attempts to solve these problems. For example, the 'contract plan' or 'performance agreement' is a mechanism to simultaneously force the government to resolve clearly its objective function for the enterprise and to create an automatic signal to measure the management's performance. Similarly, the strategy of 'get the prices right!' was an attempt to force a profit-orientation and then to use profit as the performance signal. The logical extension of this approach is to permit the company to operate on purely commercial lines. 'Corporatisation' is frequently one key step on this path.

Even if mechanisms such as these are implemented effectively, the control of public enterprises remains problematic. This is because the mechanisms to correct for poor performance, such as takeover and bankruptcy, are not operative. The 'soft budget constraint' faced by public enterprises is a notorious problem. Nevertheless, since takeover and bankruptcy become important only in relatively dire circumstances, it appears that many public enterprises, operating on more or less commercial lines, could be about as efficient as private firms.

To sum up, a plausible set of theoretical arguments can give rise to the following hypotheses:

(a) In competitive markets, there will be a tendency for private firms to be more efficient than public ones. However, if public enterprises are operated on commercial lines, and the industry is not in decline, then the two forms of ownership may yield similar performance outcomes.

(b) In regulated or monopoly markets, with the pressure of competition off, and with the absence of any reference group against which performance could be measured and compared, both public and private firms are liable to be inefficient, and no strong argument can be made a priori as to which will be more inefficient.

The empirical observations of Sections II and III seem to be consistent with these hypotheses.

NEED FOR COMPETITION POLICY

The immediate implication of the preceding discussion is that the degree of competition could well be a more important determinant of performance than ownership. If a market is competitive, then there exist mechanisms that could enable a public enterprise to operate as efficiently (or at least almost as efficiently) as its private cousins. But if a market is monopolised, privatisation by itself will not guarantee efficiency. And indeed, it appears

that the problem of regulating private monopoly is rather intractable. Although some advances in regulatory technology have been made, notably the RPI-X mechanism, serious doubts regarding their long-term effectiveness remain.²⁵ What are the implications of this discussion for how privatisation should be handled?

Consider first the role for privatisation. The key role for privatisation in the context of my discussion would be to serve as a catalyst for the spread of competition. In a competitive market, a public enterprise can perform at or near the standard of a private firm only if it truly faces competition. This means it must operate on purely commercial lines. But there will be a tendency for the government to give the public enterprise some preferential treatment in the award of contracts. Or there will often be political pressure to intervene in the affairs of the company. It has often been noted that, although public enterprise reforms do frequently work to improve performance, such improvement can be merely temporary. The enterprises back-slide after a period of a few years.²⁶ Privatisation therefore serves to cement the effect of reforms.

In a monopoly market also, competition is more likely to come into play if the incumbent monopolist is a private regulated firm than if it is a public enterprise. As countries privatise telecoms, for example, they frequently admit competition into the areas of the business where that is appropriate – customer equipment, yellow pages, value added services, and so on. Examples of this include the UK, Chile and Mexico; Jamaica was an exception. Countries that are not privatising telecoms generally permit their telecom companies to retain their monopolies in these areas also, even though there is no natural monopoly argument to justify this.

Thus privatisation can serve as the catalyst for creating more competition in the market. At the same time, privatisation (at least of unregulated firms) depends upon the creation of competition in order to be successful. If privatisation is not accompanied by an increase in competition, then the hypothesis predicts that it will not be effective in improving efficiency. The Jamaican cases other than hotels (including Sprood, the National Commercial Bank, Caribbean Cement and Telecoms of Jamaica) were all examples of privatisations with no market structure changes, and the evidence seemed to indicate no efficiency improvement. The two cases in Trinidad and Tobago, and possibly the textile and jute privatisations in Bangladesh largely fit this pattern also.

Thus a competition policy seems critical to the success of privatisation. Vickers and Yarrow were highly critical of the British privatisation programme on precisely these grounds – that a 'historic opportunity' to

Seprod

Among the seven countries they studied, ACM provide the most detailed information on Jamaica, where five companies are discussed in some detail. The first of these is Soap and Edible Products Limited (Seprod), a processor of coconut products sold in 1985. This company was profitable in the early 1980s, especially after the Jamaican government lifted price controls from its products. However, import controls were also being lifted, and there was a perception that the company needed to embark on an investment programme to improve its competitiveness. A majority of the stock in the company was sold in December 1985, partly through private sales, and partly through an offering on the Jamaican Stock Exchange (JSE). The public offering was oversubscribed at the offer price of J\$ 2.50. The company increased its profit by 45 per cent in 1986, and the stock soared to a peak of J\$ 8.50 in January 1987. However, profits started falling, and continued to do so through 1989. The main reason for this offered by the authors is that price controls were re-established in 1987. However, there is no discussion of how binding these price controls were, whether the prices being charged absent the controls were monopoly prices or efficient prices, or whether the availability of imports in a liberalising regime played any role in the difficulties for the company. Thus it is difficult to make any real judgment as to whether privatisation worked.

National Commercial Bank

The next company to be privatised was the National Commercial Bank (NCB). This was a private bank until it was taken over by the government in 1977. It continued to operate on more or less commercial lines, in competition with private banks, except that it seemed to enjoy some special advantages – for example, all government checks were paid through NCB. The company had remained profitable throughout its tenure as a public enterprise, although no comparison was made by the authors of its performance against that of its rivals, the chief of which was the Bank of Nova Scotia (BNS).

NCB was privatised in December 1986 through the sale of 51 per cent of its equity, some to an employee share scheme, but most on the JSE. The offer price was J\$ 2.95 per share, and the offer was 170 per cent oversubscribed, with the closing price on the first day of trading rising to J\$ 4.94. Because the primary motive of the sale was political—

usher in competition in telecoms, gas, water and energy was lost. The trouble is, introduction of competition conflicts with another key goal governments have for privatisation: raising revenue. Obviously a telecom company will fetch a higher price if sold as a monopoly than if it is broken up into two or more competitors. The case of Telmex serves to illustrate the point. The Mexican government considered breaking up the company, and apparently this would have been quite easy to do technologically because Telmex was two different systems until relatively recently.²⁷ But the Mexican government elected not to divide Telmex, and GJTV speculate that this was because of the revenue motive.

This conflict of objectives can be a serious one, and, because the revenue motive is typically of short-term but pressing importance, is likely to be resolved generally against the interests of efficiency. Note, however, that the revenue motive can have an efficiency justification. As Jones, Tandon and Vogelsang (1990) have argued, especially in times of great disequilibrium and macro-economic crises, the shadow value of privatisation sale receipts may be quite high, because of the role such funds may play in stabilising the economy and restoring it to equilibrium. This seems to have been the crux of Mexico's privatisation strategy, for example. Nevertheless, the long-run consequences of compromising pro-competitive policies in the short run could be severe.

In particular, and this relates to the next point I want to make, privatising without creating the right competitive environment can result in an actual *diminution* of competition following privatisation. In the UK, British Airways acquired British Caledonian, thereby ending effective domestic competition. Similarly in Mexico, Aeromexica has acquired Mexicana Airline, thereby creating close to a monopoly in the domestic market. In telecoms, the experience is somewhat too recent to reach firm conclusions, but there is some evidence suggesting that incumbent monopolists such as BT and Telmex are using cross-subsidisation strategies to deter entry into the domestic long distance market. Ultimately such strategies to reduce competition hurt the consumer, create slack in the firm, and therefore contribute to significant amounts of inefficiency.

NEED FOR REGULATORY POLICY

At the same time as government may try to establish a competitive environment wherever possible, the fact remains that there will be certain situations when the government will be considering the privatisation of a natural monopoly. In such cases, the establishment of a well-designed

regulatory system is of utmost importance in assuring the success of the privatisation. The example of the Jamaican telecoms company is a particularly egregious one of poor regulation. In Argentina also, the haste for privatisation left little time to create a suitable regulatory environment. Now although it is easy to call for the creation of good regulatory systems, it may not always be within a country's institutional capacity to actually do so. This obviously becomes an area where outside agencies such as the World Bank can play a highly beneficial role.

Alternatively, this represents a situation where privatisation may not necessarily be the best strategy. That is, if there exists a situation where the creation of competition is impossible, and there is limited institutional capacity to regulate, a case could be made that continued public ownership, with the option to privatise at a later date, may be the best course of action. As it is, regulated markets are those where the least compelling case can be argued for privatisation.

V

Concluding Remarks

This paper has been somewhat muted in its enthusiasm for privatisation. An examination of the available evidence on actual outcomes from privatisation suggested that privatisation by itself is no panacea. First of all, privatisation needs to be accompanied by meaningful changes in the degree or level of competition to realise its full potential. Second, if this is the case, how much of the potential welfare benefit should be attributed to privatisation, and how much to competition? Since both together are the desired package, it is hard to single out one or the other as being the crucial factor. This paper has emphasised the crucial role played by competition. Without competition (or appropriate regulation where market conditions preclude competition), it is unlikely privatisation can truly deliver the goods.

The implication of this analysis for the design of privatisation programmes is that close attention needs to be paid to the market conditions that will prevail around any potential candidate for privatisation. Every attempt should be made to enhance competitiveness in the market. In addition, if the enterprise will still retain considerable market power, an environment protecting potential entrants is desirable. Failing all market-oriented solutions to the problem of market power, regulation may become necessary; this needs to be well-established before privatisation should commence.

As India continues down the road to reform and enhancing the role of the private sector, these lessons may well be kept in mind.

– namely, to ensure wide share ownership, and thereby to generate support for the privatisation programme – the fact that the offer was so heavily oversubscribed was seen as a great success. Critics, however, pointed to the substantial ‘loss’ of revenue implied in the ‘under-pricing’ of the stock. And as far as the performance of the company goes, the authors detected no discernible difference from privatisation. In fact, over the next three and a half years, NCB underperformed the JSE index, while BNS, its chief competitor, overperformed the index by a wide margin. It might be speculated that the withdrawal of the government from the banking sector, signalled by the divestiture of NCB, helped the performance of the private sector, but no information on this is provided. Once again, therefore, the case is inconclusive, but certainly no strong case either for or against divestiture can be made on its basis.

CARIBBEAN CEMENT COMPANY

The third company studied was the Caribbean Cement Company (CCC). CCC was the monopoly producer of cement in Jamaica, nationalised in 1980. It continued to be operated on commercial lines and, except for 1983, continued to be profitable, although at an ‘inadequate’ level. During the period of government ownership, an ambitious investment programme aimed at doubling capacity, and financed by the Inter-American Development Bank, was launched and a Norwegian company, Norcem (later Scancem) was hired as technical adviser. The company was privatised in 1987 through a 10 per cent sale of equity to Scancem and the offering of the remaining equity on the JSE at J\$ 2 per share (the same price paid by Norcem).

The CCC privatisation was regarded as a failure because the public issue was undersubscribed. About 27 per cent of the equity was left with the government and the stock price at the end of the first trading day fell to J\$ 1.90. Why the unsold share did not have to be bought by the underwriters is left unexplained. More important than the ‘failure’ of the stock offering, of course, is the actual subsequent performance of the enterprise, and here it seems is where the real failure lies. Although 1988 was a good year, 1989 was unprofitable, and the stock price plunged to J\$ 0.84. ACM offer a series of explanations for the poor performance, the chief of these being a dramatic rise in interest costs in 1989. Summing up, the authors conclude that “it does not appear that the transfer of CCC’s ownership from public to private *per se* has had any major positive impact on the efficiency of the firm” (p 140). They go on to quote the opinion of Leeds: “The privatisation of CCC entailed the transfer of ownership from a public sector

monopoly to one in the private sector...as with NCB, there was scant justification for privatisation on the basis of its effects on the company’s efficiency”.

Telecommunications of Jamaica (ToJ)

Prior to 1987, Jamaica had two telephone companies – the Jamaica Telephone Company (JTC), which operated in the domestic market and was state-owned, and Jamaica International Telecommunications (Jamintel), which operated the international services, and was jointly owned by the government (51 per cent) and Clabe and Wireless (C and W). In 1987, ToJ was created a holding company for these two entities, and C and W ended up with just under 10 per cent of the equity in the new company. Over the next few years, ToJ was gradually privatised through successive sales of shares to C and W (raising their share to 59 per cent of the stock by late 1989) and to the public.

ACM did not have any data on post-privatisation performance, but anticipated that “privatisation may lead to a substantial improvement in JTC’s performance...over the medium-term” (p 146). However, Wint (1993), writing some years later, states “there is no evidence supporting the proposition that the telecommunications sector became more efficient after privatisation”. This opinion is echoed by the stock market, whose valuation of ToJ has remained essentially unchanged in US dollar terms over the entire period 1987-93.

Apart from productive efficiency at the level of the firm, the key issue relating to the ToJ privatisation has been the regulatory structure surrounding the company. Although Jamaica seems to have followed the British example in almost all aspects of its privatisation programme (including using many of the same advisors), the ToJ regulatory mechanism is a notable exception. Rate-of-return regulation was chosen, under which ToJ was guaranteed an after-tax return of between 17.5 and 20 per cent on consolidated stockholders’ equity! Quite unsurprisingly, the company has embarked on a massive investment programme (see Wint 1993 for details).

Hotels

The Jamaican government had acquired about half the hotel capacity in the country in the late 1970s in the process of saving from bankruptcy carrying government-guaranteed debt. National Hotel and Properties (NHP) was created to operate these hotels. It never turned a profit until in the mid-1980s the government started leasing out the hotels. Although leasing was a profitable strategy, it was deemed that the operators were operating the hotel for short-term profit and so it was decided to sell them.

Nine hotels were sold in 1989 and substantial revenues were realised from them. The hotel privatisation are seen as having been a success because NHP finally started realising a profit under the leasing programme and because substantial sums were realised from the sales. The authors make no attempt to separate out the effect of the autonomous rise in tourist traffic, stemming from the much-enhanced level of political stability in the country (compared to the turbulent 1970s) or the 150 per cent real increase in promotional spending by the Jamaican Tourist Board from 1980 to 1987. Further, the benefits of sale over leasing are not shown in a convincing way. Nevertheless, the hotel privatisations stand out in the ACM study as the one Jamaican case where privatisation can be plausibly seen as having been successful.

Notes

[Previous versions of this paper were prepared for the World Bank’s Operations Evaluation Department and Policy Research Department. I have had helpful comments from Ahmed Galal, Leroy Jones, Mary Shirley, Gerardo Sicut, Ingo Vogelsang and John Vickers. Vinod Vyasulu has played an invaluable role in bringing the paper to its present form. The views expressed here, however, are strictly my own.]

- 1 Yet G V Ramakrishna in ‘Economic Reforms and Public Administration’, lecture delivered to the Indian Institute of Public Administration, Karnataka Regional Branch, May 2, 1996, says “the big omission in the reform process relates to the public sector” (page 5).
- 2 Even in December 1996, the unions are up in arms about the proposed ‘privatisation’ of the insurance sector.
- 3 These points have been discussed in Vinod Vyasulu (1996).
- 4 For an extensive discussion of these issues, see Vyasulu (1993).
- 5 However, in looking at rates of growth in total factor productivity, Vickers and Yarrow (1988) found no such unambiguous conclusion.
- 6 The differences cannot be attributed entirely to divestiture because chance might still come into play.
- 7 Because the Jamaican cases are so interesting and informative, they are summarised and discussed in some detail in the appendix to this paper.
- 8 See, for example, Kikeri et al (1992), p 29.
- 9 Britain was unable to sell British Airways during the recession of the early 1980s; Mexico could find no buyers for Mexicana Airline during the deep Mexican recession of 1986-87, while many of its high-profile divestitures occurred during the period 1989-91 when the economy was growing rapidly; Jamaica seized the opportunity of a boom to sell NCB and CCC; most of Malaysia’s sales were during a growth period, as noted by ACM; and so on.
- 10 See Galal et al (1994).
- 11 See Ingo Vogelsang, ‘British Airways’ in Galal et al (1994). Note that an airline can

raise its effective price (its yield) simply by offering discounts on a lower proportion of its seats. Thus effective prices can be raised even if the announced price schedules remain unchanged.

- 12 See P Tandon, 'Telmex in Galal, et al (1994)'. Note that the price increase took place in the same year as the divestiture, so the effects of the increase will appear in MNR's data only for the post-divestiture period.
- 13 If you raise prices of goods with inelastic demands and lower prices of elastically-demanded goods, revenues can be raised without an apparent increase in average prices.
- 14 The point estimates for the average increase was 14 per cent for the competitive firms, 3 per cent for the non-competitive firms.
- 15 In their earlier paper, Bishop and Kay (1988) calculated TFP growth for British Steel during 1983-88 at 12.4 per cent per annum, indicating a slowdown in the years after privatisation.
- 16 The Bishop and Kay (1991) results on the public sector companies are often explained as arising from the threat, and even imminence, of privatisation.
- 17 Similar to the British experience, where the profitable PEs were divested first.
- 18 The Lorch conclusion is echoed, and indeed extended, to include the privatised jute mills, by Humphrey (1992), who reviewed other studies of Bangladesh's privatisation, and added his own. Most of the work was of the intertemporal pure case study type.
- 19 The second and third sales were in November 1987 and October 1988, respectively.
- 20 Data on interest rates gleaned from IMF, *Financial Statistics*, various years.
- 21 Winston (1993), p 1270.
- 22 For example, *The Economist* ran an editorial 'Privatisation Works - Official' discussing the results of the study. See *The Economist*, June 13, 1992, p 14. See also the discussion of the study in Kikeri et al (1992).
- 23 Galal et al (1994), Chapter 23.
- 24 For a fairly extensive review, see Vickers and Yarrow (1988), Chapter 2.
- 25 See, for example, the discussion in Vickers and Yarrow (1988), Chapter 4.
- 26 See, for example, Shirley and Nellis (1991).
- 27 The reason was that, historically, there had been two telephone companies in Mexico, and they were not interconnected. In fact, Telmex became a public enterprise largely because of the perceived need for the two systems to be brought together.

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