

BRITISH TELECOMMUNICATIONS PLC: PRIVATISATION AND THE DYNAMICS OF CORPORATE AND INDUSTRIAL CULTURE

The University of Milan study represents an enormously thorough investigation of the UK's experience with privatisation. The case study of BT sets out a very large amount of new and detailed data on the performance of BT and its predecessor institutions. This work will represent a valuable resource for researchers for many years to come. The analysis of UK privatisation is the most profound yet carried out and the case study of BT the most detailed. It makes a heroic – though I think not definitive - attempt to make an overall quantitative estimate of the net gain from BT privatisation. It is an excellent piece of work – though there are some conclusions with which I differ. These comments are confined to the case study of BT.¹

As I see it, the main conclusions of the Milan case study of BT are:

- At least by 1999, no significant trend break can be discovered in the major output variables for BT that would identify a specific quantitative impact of privatisation.
- Only a modest gain in productive efficiency should be attributed to privatisation and there may also have been losses in allocative efficiency as a result of privatisation.
- The cost-benefit study of BT privatisation carried out by Vogelsang, Jones and Tandon (VJT²) overestimated the positive impact of privatisation, mainly as a result of their interpretation of labour productivity gains in the early 1990s and their underestimate of the extent to which privatisation enabled the exercise of market power.

This assessment of privatisation is, in my view, too pessimistic.

I do not disagree that there are no sharp trend breaks nor clear causal impacts that can be attributed with confidence to privatisation. Nevertheless, I believe that the study underplays the interrelationships between privatisation, competition, regulation and industrial change. It is extremely difficult to separate out the specific impact of privatisation. Indeed this should not be done because these aspects of industrial and institutional change are interdependent. Privatisation in the UK has been part of a broader strategy to increase the role of markets in former state industries, to change the means of public control (by substituting arms-length regulation for more direct political control) and to modify incentives to economic efficiency. This process has taken more than fifteen years so far, and will take longer still to come to full fruition. This 'public policy project' has had a well-defined structure – it would not have been advantageous for example to change the relative timing of the introduction of competition and privatisation as part of this evolution. The process has also been

¹ The views expressed here are my personal views and should not be taken to represent those of British Telecommunications plc. I do, however, write as one who has experienced a privatised company at first hand (BT) and also worked at various times in public administration (Bank of England), a corporatised public industry (British Steel Corporation), the mainstream private sector (Shell) and the academic sector.

² I Vogelsang, L Jones and P Tandon, *Welfare consequences of selling public enterprises: An empirical analysis* World Bank 1994.

gradual and deep-rooted. It has worked as much through cultural change as through short term changes in economic incentives. As a result, it is not surprising that time series of rather aggregate variables (such as total factor productivity) do not show shifts that can easily be related to specific institutional or structural changes. This is characteristic, in any case, of many major changes that have taken place in industrial economies. Economists have struggled to show clear and large impacts of changes as clearly significant as the introduction of railways, the British Empire or computerisation. The data do not speak for themselves and careful interpretation is necessary. An important element in this interpretation is the understanding what would have happened in the absence of both privatisation specifically and the more general project of industrial change. This is the problem of 'the counterfactual' that VJT was also forced to come to grips with. Given the complex and rather diffuse nature of the project of industrial change of which privatisation represents a part, the selection of a counterfactual essentially involves the comparison of possible paths of institutional evolution. This cannot be a precise science. I shall elaborate on these points in the following remarks, attempting to give some glimpses inside the corporate 'black box' of BT and to articulate more fully the importance of the institutional counterfactual.

These comments are in three parts. First, I look at the dynamics of BT culture. Accepting that it is very difficult to spot much about privatisation from output time series, mainly because of the complexity and ambition of public policy towards telecommunications, I explore whether we see direct evidence of behaviour that might be specifically linked with privatisation. The section looks some effects that might be expected in theory and then tries to identifying some of these in behavioural changes. The evidence is of course very informal but I believe this approach is worth developing. Second, I try to elaborate changes in the culture of the industry, concentrating on the interrelationships between privatisation, regulation and competition. In its formal welfare analysis, the Milan study questions, though perhaps rather gently, whether this public policy project was worthwhile. Thirdly, therefore, I look at the implications of the length – and depth – of this project for the Milan welfare analysis. I suggest that the re-use of the VJT counterfactual, largely without update, does not utilise the full power of a counterfactual approach. Recent data suggest that the project continues to generate welfare gains. Further light could be cast on industrial change in telecommunications by considering a more up-to-date and policy-orientated counterfactual. The Milan study definitively concludes that privatisation, taken alone, had no sharp and simple impact on prices or productivity; however, I believe that the evidence shows that in conjunction with other industrial changes, privatisation has been an essential part of very significant increases in productivity and consumer benefit.

The role of privatisation in changing the organisation

Privatisation was an important element of a transformation of the UK economy, which took place during the 1980s and 1990s. Productive activity became part of the domain of the private sector, marking a diminished role for political decision making

in the industrial sector. The motives for privatisation were therefore political as well as economic. Changes in the form of remaining public policy control (regulation) and active steps to introduce competition also accompanied it. The specific impact of privatisation has therefore to be identified in the context of complex interrelated changes. In the case of telecommunications, changes in ownership had an important part to play in a broad ranging public policy project to 'normalise' the sector as part of competitive industry. In other cases, such as water, gains from privatisation must be more specifically associated with ownership changes.

Nevertheless, it was expected that the shift to private ownership would yield significant gains in telecommunications. In theory, ownership changes may, even in the absence of competition, be expected to increase economic efficiency. Private ownership will make certain differences to decision-making leading, in general terms, to concentration upon a single objective – profitability – rather than multiple objectives, by providing a clear ascription of property rights. Where economic efficiency is achieved by the establishment of markets and the decentralisation of decision making, 'private' decision making is clearly indicated. Is not, however, obvious that these conditions are necessarily satisfied in the industries such as telecommunications. It is apparent that economies of scale and scope and externalities are widespread, and that any practical form of decision making will involve a separation of ownership from control which will raise incentive issues for any form of economic organisation. Some years ago, Sappington and Stiglitz set out the conditions under which public decision making cannot improve on private decision making.³ They are very restrictive. In general, a public sector decision maker can do at least as well – implementing private ownership 'solution' if it is appropriate and, in addition, having available other means of intervention should more be needed. But this conclusion does not incorporate the importance of transaction costs and imperfect information. When these are taken into account, we are forced to focus "more closely on actual government behaviour and actual markets – not the idealized government and idealized markets of welfare theorems ...".⁴

Stiglitz sets out three ways in which we might expect to observe advantages for private decision making – essentially for placing *residual control* in private hands⁵:

- Governments cannot feasibly make certain kinds of commitments, notably to competition and not to subsidise. While of course the private sector is not immune from 'back-sliding' intervention, there can be little doubt that these specific commitments have been and are extremely important in the telecommunications sector.
- Private sector activity is subject to 'hard' budget constraints, both as a result of chosen management constraints and capital market constraints. The problem of incentive mechanisms arises in both public and private activity but these

³ D Sappington and J Stiglitz 'Privatisation, Information and Incentives' Journal of Policy Analysis and Management 1987.

⁴ J Stiglitz *Whither Socialism?* MIT Press 1994, p 179.

⁵ See Stiglitz *ibid.* The 'residual control' interpretation follows Oliver Hart *Firms, Contracts and Market Structure* Clarendon Press 1995.

problems are likely to be worse under public sector ownership because restrictions that are placed on the incentive mechanisms that can be used in the public sector. These restrictions often arise from the inability to distinguish between rents necessary to achieve economic efficiency and those that result from 'rent seeking'. We would expect to observe, in BT, changes in the implementation of hard budget constraints and in incentive mechanisms as a result of privatisation.

- In the private sector, enterprises, or parts of enterprises, that do not meet hard budget constraints are weeded out and do not survive; selection as well as incentive mechanisms therefore have a greater role to play.

These mechanisms can increase economic efficiency even where there is not effective competition. But economists are generally agreed that competition is more important than privatisation in enhancing incentive and selection processes.⁶ Given that in the BT case study the introduction of effective competition and privatisation were in large measure simultaneous it is not surprising that it is not easy to identify specific results from privatisation. It is true that privatisation preceded competition, but most of the favourable effects of privatisation might be expected to be revealed only as competition begins to make a serious impact. This is when it would be most obvious that clouding of goals, commitments, incentives and selection mechanisms would be likely to raise problems that might slow productivity growth if the industry remained in the public sector. Privatisation was therefore only truly 'tested' after the 'Liberalisation Review' (1991/1992), and the intensification first of cable company competition and then of service provider competition. This is indeed the period when changes in productivity are most apparent.⁷

Perhaps the most important conclusion to draw from a theoretical consideration of the potential benefits of privatisation is that welfare analysis of the role of privatisation involves comparing imperfect institutions, actual and hypothetical. In understanding the impact of such institutional change, different forms of incentive and selection mechanisms will interact and the impact of internally imposed hard budget constraints will similarly interact with the requirements of successful competition. This complex of responses is manifested in cultural change. Identifying such cultural change will not prove that privatisation has caused measurable changes in productivity growth – but it will confirm that we do observe the kinds of changes that would naturally be associated with the mechanisms by which privatisation might be expected to yield benefits. In my view, these cultural changes have been both significant and positive.

The changing culture of behaviour in BT

⁶ For example: J Vickers and G Yarrow *Privatisation: An Economic Analysis* MIT Press 1990 and J-J Laffont and J Tirole *Competition in Telecommunications* MIT Press 2000.

⁷ See chapter on the UK in VJT .

Faced with novel economic and market changes, how did the culture of BT's private sector 'residual control' deal with the explicit management decisions initiated by market pressures?

Market pressures and redundancy

The cutting of the labour force in the early 1990s provides a helpful example. This phase is perhaps the most easily identifiable shift in a relevant time series – with labour productivity improving noticeably. It has a strong effect in the quantified welfare analysis of VJT, though this effect is questioned in the Milan study.⁸ The Milan study recognises the existence of productivity increases but points out that it seems to have been related to liberalisation (and hence the anticipation and actuality of competition) rather than privatisation and hypothesises that it would therefore have happened anyway, regardless of ownership. This is an over simplification. The need for labour reduction did not occur before the 1990s because the first priorities of introduction of digital switching technologies and the improvement of poor customer service were high priorities and labour intensive activities. BT management could achieve reduction in the labour force when the time came and it did so without excessive conflict partly because the terms of release were generous (in a way that public sector decision probably could not have assured). The 'private sector' decision on redundancy was informed more by the need to protect BT's reputation as an employer (and the 'implicit contract' it regarded as relevant to future recruitment). Generous voluntary redundancy was an appropriate market response.

A public sector corporation would very probably have been under greater pressure to be parsimonious with public funds. Private sector employees probably had fewer channels for leverage than would have been the case if they had been part of the public sector. But this does not mean that the reduction in the labour force implied a significant distributional change that distributed income away from the work force. First, the introduction of competition, which was part of the overall public policy project and which stimulated the need for greater labour productivity also provided the prospect of jobs in new entrants and competing companies. The vast majority of the BT employees who left during this period either took early retirement (and perhaps changed careers or engaged in work in the voluntary sector) or took equally lucrative jobs with competitors. All redundancies were voluntary. Hence, it seems that there would have been an actual Pareto improvement (or at least very few welfare losses for individuals) as result of the manner in which the labour force was reduced. It is quite perhaps unlikely that this could have happened had BT still been part of the mainstream public sector, both because the culture of change and the pressures on compensation payments would have been different and because the market context could have been less favourable. Although all may not accept this description of the distribution of costs and benefits, it is certainly clear that a sophisticated counterfactual case – with a counterfactual culture - should be drawn up before welfare judgments are made (see next sections).

⁸ M Florio et al Privatisation in the UK: A Welfare Analysis forthcoming and the BT Case Study this journal.

The development of unitary objectives - customer focus, organisational change and corporate culture

Since privatisation, successive generations of management – usually with experience in other industries have introduced novel ideas about customer focus and new quality initiatives. Top managers have come with experience, for example, of the United States market place, high street retailing and high technology office equipment. Without exception they have diagnosed customer focus as a priority area for attention. With new management and new focus the language also changes: for example, subscribers or consumers become customers. Activities are re-benchmarked against external criteria. Research has to be justified by its relevance to customer-facing business units. This has, for example, resulted in changes at BT's laboratories at Martlesham. Basic research continues but there is more accent on innovations that are directly appreciated by customers and in developing spin off companies to exploit innovations with applications outside the mainstream.

Taking all these developments together, there has been a marked shift from a technology-centric culture to a customer-centric culture. Has this anything to do with privatisation? It is important that the managers who have initiated or implemented change have come from the private sector. Some, no doubt, would not have come had BT been publicly owned. Of course, it is always possible to claim that, had these changes been required, a publicly owed entity, facing an increasingly competitive market and a more demanding customer, would have adopted the changes required. Although possible, the process is unlikely to have been so deep-rooted. The *unitary* objective of creating profitability through providing what the customer wants has not been so easy to achieve – or indeed so appropriate - in activities, such as health care, where attempts have been made to introduce a greater accent on the 'customer'. It seems to be a matter of practical fact that allowing a corporate entity to focus fully on profitability through customer satisfaction and productive efficiency, while leaving social control to a regulator, has proved fruitful in creating social welfare in a market that is 'naturally' competitive. Because of the importance of learning and 'management vintage' effects, this is a slow process. But it is a vital part of preparing a former state enterprise to be successful in a competitive market.

Alongside progressively increasing customer focus different internal management structures have been explored, often based on models from outside BT. The logic of new organisational structures has shifted from technological or geographical criteria to channel to market and customer type. This is again typical of movement from a bureaucratic structure to a market focused structure. At the same time, responsibility has been devolved and the number of hierarchical layers reduced. BT is now organised on the basis of: BT Retail which focuses on UK consumers; BT Wholesale which supplies network services in the UK; BT Ignite, which focuses on multi-site customers with European operations; BT openworld which concentrates internet business for residential and small business customers; and BTextact Technologies. Customer focus and a preference for decentralisation are two cultural characteristics that are associated more with private sector than with public sector behaviour.

Hard budget constraints and the principal/agent relationship

Stiglitz accentuated the principal/agent relationship in his characterisation of the potential advantages of private sector ownership. (His other emphasis was on the disadvantages of public sector ownership in enabling commitment – of which more later.) This relationship is, of course, affected by the organisational factors described in the previous section but relates more specifically to the establishment of monetary incentives. These management structures and cultures are designed to point directly at creating 'shareholder value'. Unitary goals and hard budget constraints are reflected in them. Products that do not meet this criterion are abandoned. BT's strategy framework has increasingly been used to set decentralised 'hard budget constraints' allied to performance targets and reward systems. This has been reinforced recently as the recession in telecommunications has made the role of financial accountability even clearer. BT has been forced to reduce its debt by its owners – the shareholders. The consequences of this have been substantial and it has changed both strategy and behaviour. Budget constraints would not have been as tough, or have had the same effects, without privatisation. Similarly, new incentives schemes based on monetary targets and achievements have been successively introduced. They have become sharper and more pervasive over time, and have included bonus and share option-based schemes for a rather wide range of employees.

More recently, as competition and uncertainty have increased, there has been some impetus to change from 'planning' to flexible strategic management. Structures and individuals are learning to operate in an environment, which they are not in control of. This will be a significant cultural change. Until competition is fully at work, the need for strategies that put uncertainty and opportunity at the forefront has not been dominant. This is the next challenge for corporate culture. Accepting uncertainty is a characteristically private sector mind set. Organisations under political control or close to governments tend to concentrate on controlling or removing uncertainty rather than accepting it as a fact of commercial life. In competitive markets a controlling approach is seldom possible.

The impact of these changes has felt most clearly in the last half dozen years when the impact of competition has intensified. Privatisation has enabled successful preparation for competitive rivalry.

Incentive mechanisms and corporate culture

Economists tend to place emphasis on formal incentives and selection mechanisms. The above examples of change in BT since privatisation have concentrated on softer, more diffuse cultural change. It is clear that change of all kinds is slow, depending as it does on learning, succession of management vintages and the emergence of the demands made by intensified competition. The question remains, however, as to whether such changes could have been achieved without privatisation. I think the

answer is that, in principal, and an aside from an environment free from contrary interests, they could have been. But, as Sappington and Stiglitz explained, we need to deal with a comparison of real world institutions. I think it intuitively acceptable that the BT 'culture of residual control' that has emerged over the past 15 years is very different from that which would have evolved had BT not been privatised but had been under more direct control as part of the public sector.

Corporate culture is a 'soft' concept and it is difficult to demonstrate definitively that a private sector culture is different from a public sector culture. Nevertheless, despite the recent tendency for public sector cultures to converge on private sector cultures, the two remain distinct. They tend to use different incentive and selection mechanisms, although their differences are more deep-rooted than this.⁹

The role of privatisation in enabling competition and industrial change

As has already been argued, privatisation is only one part of a broader project of industrial change. As the Milan study describes very well, BT has passed through a number of stages of institutional change. Until 1969 telecommunications was part of the Post Office, a government department. In 1969, the Post Office became a statutory corporation and in 1981 BT took over the telecommunications responsibilities of the Post Office. A statutory corporation was subject to a different and more 'arms length' form of public control. While in principal competition was introduced in 1983 and BT not privatised until 1984 in practice, there was a period in which BT faced only a restricted form of competition. During this period, a new form of public control became established, largely independent from day-to-day political control. From about 1992 onwards, however, competition has grown rapidly in extent and even more in power. During this transition, the regulatory structure has remained unchanged, though the nature and emphasis of regulation has changed somewhat. One of the primary objectives – if not the primary objective – of regulation has become to foster the introduction and growth of competition. This sequence of events represents a coherent public policy project – that of the 'normalisation' of telecommunications as a competitive private sector industry. Taken as whole, this project is 'committed' to competition and the combination of privatisation, with the form of public control chosen represents very clearly the practical importance of this commitment, in line with the theoretical arguments of Stiglitz and others. Furthermore, it is doubtful that a public sector BT would have been forced to live in a world with the same intense commitment to economic efficiency and competition.

These developments show the role of privatisation in a project that has so far lasted more than 20 years. In my view, the most important question about its role is not whether it has led to productivity changes that can be specifically ascribed to change of ownership but whether the whole project could have been carried out without privatisation. It is equally true that arms length regulation is required.

I would suggest the following propositions:

⁹ I can only adduce here my own experience of such distinct cultures! (See footnote 1)

1. ***Privatisation is the appropriate principal/agent culture in competitive markets.*** This assumption is shared by politicians, regulators and market participants and is not, as I understand it, questioned by the Milan study.
2. ***The UK market is becoming rapidly becoming more competitive.*** While there are differences in opinion between Oftel and BT on which sections of the market are currently effectively competitive, the expectation of both is that the objective of effective competition is a desirable and feasible objective.¹⁰ The commitment to competition has been consistently maintained.
3. ***Privatisation provides better systems of control while these markets are becoming competitive.*** This applies both within the privatised company and in the public control system (regulation). Privatisation plus independent regulation is an efficient form of economic control. The separation – and opposition – of public and private goals and strategies is in practice superior to a hybrid decision system. Many examples of this are available. BT has made a number of innovations in retail pricing, responding to customer demand and moves by competitors. On occasions, Oftel has disallowed some moves that BT has made, or worked for them to be modified, on public policy grounds. Usually, however, this is because it believes that such prices might be anti-competitive – and thus tend to frustrate its objective of enduring a competitive market. Only infrequently has Oftel been concerned that BT's pricing has not served other political goals – regional policy or the protection of the interests of particular groups of customers. This does not mean, however, that these goals of public policy have been ignored. In these cases, Oftel seeks to require BT to meet these goals (usually by means of a Licence condition). As a result, BT is often heavily involved in designing prices against a background of regulatory constraints, ensuring that these decisions are as far as possible responsive to customers needs and efficient means of implementing regulation often directed at distributional objectives. Commercial behaviour is modified, rather than replaced, by regulatory action. There is an example of this in the recent Review of BT's Retail Prices. Oftel's original proposal was a rather complex (and commercially restrictive) price cap on a particular customer segment. BT believed that the distributional objectives could be best achieved, with minimum side effects, by an extension to the Light User Scheme designed to protect 'low user' customers. This was eventually agreed. It is difficult to believe that, had these decisions been taken under a different institutional framework, a solution that involved simple cross-subsidy would not have been adopted. It was normally the case that, before BT was privatised, fixed charges for telephony would be explicitly held down for all users in order to benefit low using groups. This initiated price 'imbalances'. They become so substantial that their influence remains today. This is a practical example of how privatisation makes the commitment to avoid subsidy easier to implement.

In sustaining commitment to a path towards 'industrial normality', privatisation, regulation and competition are therefore symbiotic – but specialisation in decision

¹⁰ *Protecting consumers by promoting competition* OFTEL 2002.

making avoids multiple objectives and 'easy ways out' clouding the issue. Both BT and its regulators have well-defined objectives which may sometimes conflict. When this occurs, an explicit and transparent process of resolution goes some way towards ensuring that the commitment to the growing openness of telecommunication markets is maintained. If 'effective competition' is not possible in any part of the business, privatisation plus regulation has some advantages but not as many as privatisation plus competition.

Cost-benefit analysis of public policy towards telecommunications.

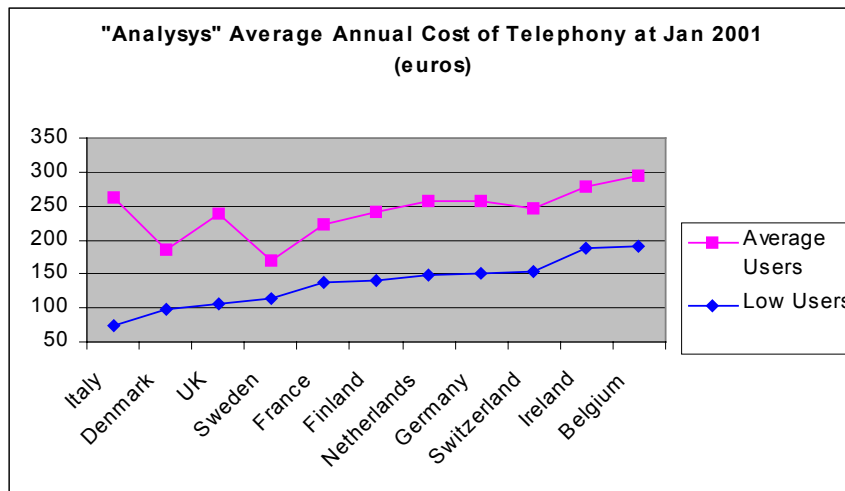
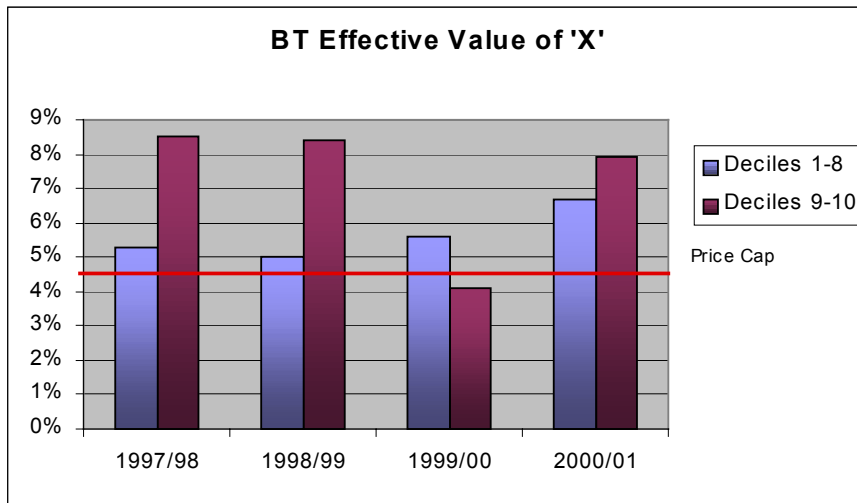
The Milan case study of BT attempts a specific, quantitative cost-benefit analysis of the privatisation of BT. It does this by adopting much of the work contained in the World Bank cost-benefit study carried out by VJT in 1994. VJT adopted an approach which compared actual outcomes with those of a hypothetical counterfactual designed to represent what would have happened had BT not been privatised. VJT found a substantial net benefit to privatisation, much of which derived from the labour productivity increase that occurred in the early 1990s. Developing the counterfactual involved numerous extrapolations and many assumptions that VJT acknowledged might be debatable. The Milan study essentially takes over VJT's quantitative results but re-analyses them, applying shadow prices and suggesting that a major item that VJT counted as a benefit should perhaps be re-categorised as a cost. As a result, the net benefit of privatisation is much reduced and, in the most radical case becomes a small net cost.

Given the arguments made above about the long time span over which privatisation becomes effective, its complex interrelationships with competition and regulation and the difficulty of characterising 'preparedness for a competitive market' in quantitative terms, I think that any quantitative cost-benefit conclusion will always tend to be misleadingly precise. But I have three specific difficulties with the Milan conclusions.

1. The scope of the welfare analysis

It is the whole dynamic, of which privatisation is only one element, that creates a net social benefit. This dynamic has now reached the stage where de-regulation is beginning and competition is clearly active. At the very least, the quantification of welfare effects of BT privatisation should incorporate the most recent changes in prices which would yield a significantly enhanced consumer benefit from privatisation. The charts below show how recently price declines have sharply intensified and 'out-performed' regulatory requirements.¹¹ BT prices are also low in international comparison.

¹¹ The chart show average extent of BT's price reduction in each year expressed as an implicit value of 'x' in RPI-x regulation. The actual RPI-4.5 control applied only to the bottom 8 deciles of BT's residential customers. This and the one that follows it are taken from BT's response to Of tel's Statement on BT's price control (2002) available on www.of tel.gov.uk.



2. The counterfactual adopted

VJT's approach to quantification can be characterised (not, I hope, caricatured) as comparing actual paths for variables with trend paths, extrapolating both in the future to estimate total welfare gains and losses. A trend path is not quite the same thing as a counterfactual. In particular, VJT do not compare a realistic institutional

counterfactual with the actual situation. As argued above, privatisation is not a 'shock' with well-defined impacts but a component of a distinctive path of evolutionary institutional development. This was perhaps less clear when VJT carried out their study. It may be helpful to explore what a realistic counterfactual might be.

If we accept the assumptions that telecommunications markets will be effectively competitive relevant markets with many players, and that private sector ownership will be the eventually be the 'natural state', an appropriate counterfactual might be a path in which competition *precedes* privatisation. In this case, *residual control* lies in political hands until competition is achieved, perhaps as insurance against the failure of competition.¹² The counterfactual would then have to articulate how such an institutional structure would have handled telecommunications issues such as the introduction of competition and demands for distributional cross subsidies. It is difficult to believe that such an institutional structure would not have meant a slower introduction of competition, a greater use of cross subsidies and, possibly, the implicit use of remaining market power in telecommunications to raise government revenue (rather than the actual regulatory objective of controlling prices for the benefit of consumers).

A number of difficult choices might face a publicly owned corporation, for example:

- How would political residual control deal with poor competitive performance?
- Might there be temptation to use the excuse of multiple objectives and a 'social welfare function' that took into account distribution to take actions that limited rather than enhanced competition?
- Would there be a temptation to over-invest if finance could often be raised merely by increasing prices?
- Would appropriate entry decisions be fostered?
- What would be the incentives to cost reduction?
- How would a 'competition culture' be established?

An ideal public corporation would have no difficulty in replicating private decisions, were these were the best that could be made. But the counterfactual corporation would not be ideal. The importance of learned response was evident when cable competition began to bite in the early 1990s, and it emerged that the previous experience of privatisation without severe competition had clearly set the conditions for an effective competitive response (see the section above on 'Market processes and redundancy').

One of the factors which encouraged the government of the time to embark on a programme of privatisation was that it was difficult for it to provide the capital for

¹² If telecommunications could be normalised in this way it would be unusual for the end state to be full competition – but with a major player government owned. In this case it would be unclear exactly what difference government ownership made in this case – as compared to other industries which the government would have no role. The government might then have no impact different from that of a private sector shareholder – or might seek to impose 'non-market goals' and consequently receive a lower financial rate of return. In the latter case, it would in practice probably have to be the sole shareholder and not subject to take over.

digitalisation from public borrowing. It was believed that such borrowing would be inflationary. Without privatisation, digitalisation would have happened more slowly or later, probably both. While it may not be true that public finance would have been inferior, it certainly was true that public finance would not have been so easily forthcoming. In this simple sense, even 'trend performance' was dependent on privatisation and the counterfactual should not include assumptions that the government 'could' have behaved differently when it clearly would not actually have done so. Difficulty in providing adequate finance for investment from taxation or by raising prices would have clearly been a practical constraint on a BT that was only 'corporatised' and still part of the public sector. In this case, the perceived shadow price of public funds for productive investment was extremely high.

Of course, all these effects are difficult to quantify. But the use of counterfactuals need not be exclusively quantitative. Counterfactuals used to examine interests and the relative role of various causal factors have been quite widely used in historical studies. They have often succeeded in illuminating long-standing historical debates.¹³ Such analysis might also make clearer the rational for and likely behaviour of a publicly controlled competitor. This form of institution has become markedly less popular in recent years. State shares in private enterprises operating in competitive markets have typically been sold off in recent years and companies in state control (for example, BP and British Airways in the UK) were frequently amongst the first to be privatised. Useful material for articulating a counterfactual could be obtained from this experience and from international comparisons from countries. It appears that the introduction of competition has been slower in countries where privatisation was delayed and that the market position of the former incumbent has remained stronger for longer.¹⁴ Development of the Milan study might usefully involve further use of international comparisons in developing a quantitative counterfactual.

In summary, a useful explicit articulation of a realistic institutional counterfactual might include the following elements:

1. Privatisation should not be regarded as a shock; it should be regarded as part of an evolutionary path.
2. The objective function of the state competitor should be defined and, if the transition to competition is to be given predominant priority, also the means by which it would approach the introduction of competition.
3. The extent to which such an entity might realistically make 'excess profits' should be stated (see next section). These may be used to finance objectives that are considered to have a positive social value (after the distortions that method of financing them have been taken into account).
4. The appropriate regulatory form should be described, with its domain of action, instruments of control and objective function.

¹³ See for example Niall Ferguson (ed) *Virtual History* Papermac 1998. There is also of course a strong tradition of quantitative counterfactual history, illuminating for example the role of railways in United States economic history.

¹⁴ To confirm this judgment, further work would, however, be necessary.

5. Shadow prices should be incorporated within the counterfactual, as different shadow prices might have been appropriate in the counterfactual environment.
6. Finally, it should specify the counterfactual culture and its effect on corporate behaviour – for example, how it might compare with the culture of a national health service or education on the one hand and a privatised BT on the other.

In short, I feel that the counterfactual needs to be reconstructed – though a fruitful counterfactual should not be confined to quantitative analysis.

3. Ex post adjustments to the VJT analysis

Although the Milan study adopts the counterfactual of the VJT analysis, it does provide a different analysis of the quantitative data. It modifies the VJT analysis two major ways:

- It applies shadow prices before summing costs and benefits.
- It argues for a different treatment of BT profits.

The application of distributional weights is perhaps a matter of taste. It does not alter the fundamental impact of privatisation. It is easy to compare the ‘two answers’ or apply one’s own welfare weights. The extreme treatment of BT’s ‘excess profits’ is, I think, much more difficult to accept. First, it is not at all straightforward to identify ‘excess profits’. Regulators and competition authorities are seldom cavalier about it. The pursuit of rents is a fundamental driver of markets and the cost standard that should be used is often NOT that set for other purposes by regulators or set out in historical cost accounts; ex post judgments are seldom as helpful, in risky markets, as might appear at first sight.

Second, the counterfactual is unclear. The assumption appears to be that there would have been no excess profits under the alternative institutional arrangements and that costs would be the same. Profits under price cap regulation are partly a reward for ‘excess cost reduction’ and as pointed out above, institutions with residual public control could frequently set prices that were not equal to some ‘competitive cost standard’. Telecommunications industry profits were by no means out-of-line with general industrial profitability at the end of the case study period.¹⁵

¹⁵ This table is also included in the BT response referenced in footnote 11.

Average ROCE by sector for UK top 500 companies¹

Description	Average ROCE for sector
Software and computer services	227.5
Tobacco	73.7
Aerospace and defence	52.4
Support services	51.1
Media and photography	48.4
Information technology hardware	44.9
Automobiles	44.5
Speciality and other finance	43.4
Health	37.5
General retailers	32.1
Pharmaceuticals	31.6
Engineering and machinery	31.4
Banks	30.9
Electronic and electric equipment	29.7
Telecommunications services	29.5
Restaurants, pubs and breweries	28.8
Diversified industrial	28.6
Transport	25.9
Distributors	25.4
Oil and Gas	24.9
Food and drug retailers	24.0
Construction and building materials	22.7
Personal care and household products	22.6
Chemicals	21.6
Food producers and processors	20.1
Insurance	19.8
Packaging	19.7
Electricity	19.3
Steel and other metals	19.0
Leisure, entertainment and hotels	18.3
Beverages	18.0
Water	15.4
Real estate	11.3
Mining	10.1
Forestry and paper	9.4
Gas distribution	7.8
Household goods and textiles	7.5
Investment companies	3.7

¹ As published in the Financial Times on 4th May, 2000. This updates the previous survey published in January 1999. All figures quoted here under historical cost accounting conventions, whereas the ROCE for BT quoted by Ofel is calculated on figures prepared under current cost accounting conventions.

One very good reason why prices may not be set at the absolute minimum regulatory standard is that this would reduce incentives for entry that are a vital part of the whole project of competition. In addition, it seems possible that there may have been some double counting of losses to consumers and taxpayers.¹⁶

While the calculations carried out by the Milan team are stimulating, and put focus on the distributional impacts of privatisation, it would have been helpful for such shadow prices to have been considered explicitly in constructing a counterfactual. In my view, the challenge to the standard treatment of VJT is interesting but not compelling and, in so far as the quantitative estimate of the impact of BT privatisation is at all meaningful, the VJT conclusion is, in my view, a more robust assessment.

Conclusions

¹⁶ See R Millward 'The British Privatisation Programme: A Long Term Perspective' this journal.

The commitment to competition has been a commitment to prior privatisation, which has been a commitment to independent regulation. This complex of commitments has gone a long way towards creating a private sector culture within BT and competitive markets in the telecommunications industry. I have tried to characterise the last fifteen years as a period of continuous learning and cultural change. Privatisation changes the culture of residual control. Behaviours are sedimented in individuals and these change relatively slowly. We should not be too worried if we do not see an obvious inflexion in economic time series. An 0.1 percentage point shift in industry growth – if that were to be the overall quantitative impact of comparison between the actual path of industry growth and a counterfactual path - would be a big shift, given that the telecommunications industry is significant component of GDP. Not many public policy initiatives could expect to be so powerful.

In their conclusion to the chapter on the case study of BT, the authors state:

“Basically, there is no way to attribute privatisation to changes in prices and costs that seem to be driven by factors different from the transfer of ownership rights. Most of the changes are related either to the financial mechanism or to liberalisation and regulation. Obviously, if privatisation was the necessary prerequisite for changes in finance and regulation and market structure, one may reach different conclusions, but such a counterfactual is very difficult to be substantiated by any objective evidence.”

I believe that such a counterfactual could be substantiated. It could be fleshed out using comparative information from public sector cultures that operate in competitive arenas (and where private sector cultures have been introduced into public services) as well as from international comparisons, especially where liberalisation has taken place without privatisation.

The BT case study has raised all sorts of questions about how institutions actually work and what role privatisation should play. It rules out, at least as far as telecommunications goes, the arguments of the most enthusiastic defenders and attackers of privatisation. It forces us to think in terms of comparative institutional efficiency and shows us that no set of institutions is likely to achieve in practice all that can be imagined in theory. It shows us that privatisation and regulation have to be taken as a mutually dependent pairing. It demonstrates the importance of commitment as an aspect of setting up social institutions. It shows the logic of privatisation to be much more complex and subtle than might have been envisaged at the time the decision was taken.

The welfare analysis of the Milan study represents a valuable voice of scepticism in a world of ideological enthusiasm. It does not, however, provide the last word on whether, in terms of economic welfare, measurable and unmeasurable, privatisation was costly political window dressing or a key element in economic change.