Experience of Privatisation, Regulation and Competition: Lessons for Governments

by
Lesley Davies
&
Kathryn Wright*
ESRC Centre for Competition Policy, University of East Anglia, UK
&
Catherine Waddams Price*
ESRC Centre for Competition Policy, University of East Anglia, UK

CCP Working Paper 05-5

Abstract: This policy paper offers a synthesis of research on privatisation and its impacts on the utilities sector in different countries. It identifies issues to be considered by policy makers concerned with economic reform, including the implications of sequencing privatisation together with competition, regulation and industry restructuring; the role and importance of an independent regulatory agency; and the impact of introducing competition into utility markets. In addition to assessing reform through the more conventional method of examining productivity gains, it considers the distribution of the broader benefits from reform among key stakeholders – government, investors and consumers.

JEL Classification: D02, G18, L3, L5, L33
Keywords: Utility Sector Reform, Privatisation, Economic Regulation, Competition, Regulatory Agency, Sequencing, Impact and Benefits of Economic Reform

Acknowledgements:
Financial support from the Organisation for Economic Co-operation and Development (OECD) is gratefully acknowledged. Any inaccuracies remain the responsibility of the authors.

Contact details:
* ESRC Centre for Competition Policy, University of East Anglia, Norwich, NR4 7TJ, UK. www.ccp.uea.ac.uk t: +44 (0) 1603 593715 f: +44 (0) 1603 591622

ISSN 1745-9648

INTRODUCTION

- This paper provides a synthesis of research looking at the impact of privatisation and in particular, focusing on the role of competition and regulation in privatised industries.

- The paper focuses on utility reform in the gas, electricity, water, telecommunications and transport sectors. Each section is presented in the form of questions to assist governments in their exploration of what instruments of reform will provide the most appropriate results for their countries.

- The paper is organised into 6 sections. First, an executive summary of significant policy issues derived from the research is provided. The second section makes some general comments about the difficulties of directly comparing reform processes. The following section examines the implications of sequencing privatisation, regulation, competition and industry reform. The fourth section focuses on regulatory infrastructure. The next section looks at the impact of introducing competition into utility markets, and the final section will examine the impact of reform – who benefits and who loses. In addition to using the more conventional method of assessing reform by examining productivity gains, it will consider also the distribution of those gains among key stakeholders – government, investors and consumers (voter citizens in the case of residential consumers). This last section is supported by tables which examine a range of country studies and set out in more detail whether reform increased productivity and whether there has been evidence of benefit for any of the three stakeholder groups identified above. The final table also records the presence or absence of an independent regulatory agency.

EXECUTIVE SUMMARY

Why undertake a programme of reform?

Countries undertaking a programme of reform need to have clear objectives for what they want it to achieve. Reform must also be politically feasible not just domestically but internationally – if investment is the objective, the infrastructure needs to be in place that will provide investors with some confidence that they will achieve a reasonable return. Objectives are just as likely to be political as they are economic and are likely to require trade-offs between finance and competition ministries which influence the nature of the reform that is undertaken.

How should reform be undertaken?

The fact that countries have undertaken reform programmes with different sequences makes it difficult to compare easily their impact and draw definitive conclusions. However some broad indications are available. If it is feasible, restructuring and the creation of the regulatory agency should take place in advance of other aspects of the reform programme. Evidence suggests that the introduction of competition will deliver the greatest overall benefits and should therefore be an ambition of a reform programme where it is feasible. The experience of rail in the UK provides a good example of the consequences of poorly conceived restructuring.

What makes regulation successful?

A regulatory agency that is separate from the Executive (and other interference) is likely to deliver the greatest, all-round benefits to those involved in utilities markets – it sends the right signals to foreign investors and (subject to clear objectives) balances the interests of consumers and service providers. There is some evidence that creating regulatory agencies at the start of the reform programme is likely to better facilitate it. Reform of utility industries does not happen overnight and it is likely that the function and focus of the regulatory agency will change over time. Governments should also consider in advance how they want efficiency gains to be distributed post-privatisation.

What are the implications of introducing competition?

Evidence suggests that having the introduction of competition (where possible) as the primary objective of a reform programme will deliver the greatest results. While, at a macro level, the increase in welfare that comes from the introduction of competition can be significant, it is likely that there will be distributive implications as a consequence of the erosion of cross-subsides, especially where these have been extensive. This can have political ramifications for a government if not effectively addressed. It is important to consider whether introducing competition, wherever it is possible to do so, will deliver the greatest benefits for the costs incurred or likely to be incurred. For example, would wholesale electricity competition deliver sufficient, sustainable benefits without competition at a retail level (which has proven costly to deliver in the UK)? If competition in retail markets is undertaken, consideration should be given to what support consumers might need to take part in competitive markets.

What are the benefits to government from reform?

Evidently the most significant benefit to a government from a reform programme is the increase in revenue that it will generate either from the sales process or the relief from investing in capital intensive industries. The scale of the benefits available is dependent on many variables, not least the degree of subsidisation that the government previously bore. A more indirect benefit of reform is that it insulates the government, at least partially, from politically sensitive industries that provide basic necessities.

What are the benefits to consumers from reform?

While it is not possible accurately to determine the full benefits of a reform programme to consumer welfare, evidence suggests that these can be significant but are unlikely to be as great as the benefits to government. Clearly a reform programme that brings in more revenue to government may lead to taxation revenues being used elsewhere to deliver benefits. The nature of the reform undertaken can affect consumer welfare and distribution issues may arise. If competition is introduced it is likely that it will lead to an erosion of cross-subsidies which will impact on those consumers who have received the benefits in the past. This may require a careful policy response, especially if the recipients are politically powerful. Finally, attention to the impact of reform programmes on the poor is becoming increasingly important to agencies that might support reform programmes.

COMPARING REFORM PROGRAMMES

1. Countries that have undergone economic reform have not all followed the same programme of activity – different types of reform have been introduced in a different order in various markets even within the same country. For example in Brazil, the regulator for electricity is considered not to be independent while the gas regulator is[1]. Pollitt notes no significant difference between production costs under private ownership as compared with public ownership based on data from the UK, France, Germany, Greece, Ireland, Denmark, Italy, the USA and Canada[2]. This may seem counter-intuitive, and more recent post-reform literature suggests that this is indeed the case. An assessment of the impact of policy change depends on assumptions made about the counterfactual – what would have happened had the reform not occurred – and the timing of the reform. Therefore comparisons between "before" and "after" may vary as a consequence of the timing of the "after" snapshot and need to be understood in terms of the specific reforms that have been introduced.

2. Despite (or perhaps because of) the extensive study of privatisation reform, there is no agreed and established set of indicators that are available to assess its effectiveness. This can mean that different analysts may perceive the same programme of reform as either a success or a failure. This problem is further exacerbated by the (natural) use of different definitions for important criteria such as service quality, productivity and efficiency. It is quite possible that these definitions can differ within countries. From a practical perspective, a country can avoid some of the difficulties posed by this situation by establishing clear and unambiguous objectives before entering a programme of reform. This will facilitate the creation of a set of indicators of success relevant to the country in question against which performance over time can be measured. There may be possibilities for comparative measures of quality and cost between countries (so-called yardstick competition) where there are sufficient similarities.

[1] World Energy Council report (1998) 'The Benefits and Deficiencies of Energy Liberalisation'
[2] Pollitt, M.G. (1995) 'Ownership and performance in electric utilities: the international evidence on privatization and efficiency', Oxford Institute for Energy Studies

WHY UNDERTAKE A PROGRAMME OF REFORM?

3. Undertaking a programme of industry reform is essentially a political decision. It is important to consider what the objectives of the reform might be and the possibility that these will vary between the different agencies within a government that may place different emphases on the various objectives of privatisation. For example, the finance ministry would be expected to focus on maximising positive impacts on government finances, either through relieving the government of investment subsidies, and/or through the revenues received from sales of shares. This revenue depends on the profits which investors expect to make from the industry once privatised, which in turn depend on the extent to which competition is introduced or the tightness of regulation, where this is imposed as an alternative to competition. So a finance ministry might argue in favour of privatising the company intact, with little competition and light regulation, to increase privatisation proceeds to the exchequer. Expected monopoly profits are capitalised in the share price, and the government's finances will be enhanced if these are maximised. In contrast, the government's competition authority may place more emphasis on the welfare benefits of competitive markets, where consumers are protected from exploitation of such monopoly power by a competitive industry and tight regulation.

4. While few papers have drawn on a wide dataset of both developed and developing countries, it is clear that the motivations and policy objectives of utility reform may differ for countries at different stages of industrial development. For developed countries, which already have relatively reliable technology, the emphasis is on optimal efficiency and improvement of economic performance. For developing countries, the goal is ultimately to reduce the public cost by increasing investment to address low service quality and coverage, poor collection rates and high network losses. Bacon and Besant-Jones[3] point out that reform should be both desirable and politically feasible in the country in question. The effect and consequence of political objectives are considered in more detail below.

5. Ugaz and Waddams Price[4] explore in some detail the reasons behind the reform programmes in Argentina, Chile, Peru and Bolivia. In the case of Argentina, its infrastructure was relatively mature in terms of coverage and its objective was "to upgrade the networks to bring in new technologies and to improve the quality (reliability) of services. In the cases of Bolivia and Peru, a sizeable proportion of the population was excluded from services. The networks had to be extended to reach an increasing number of users, many of them living in poor and marginalised areas." Both Argentina and Peru wanted to use the privatisation process "to signal commitment to reforms from newly democratic governments in each country" and there

[3] Bacon, R W and Besant-Jones, J (2001) 'Global Electric Power Reform, Privatization and Liberalization of the Electric Power Industry in Developing Countries', 26 *Annual Reviews Energy and the Environment*, 331

[4] Ugaz, C and Waddams Price, C (eds) (2003) 'Utility Privatization and Regulation: A Fair Deal for Consumers?' Edward Elgar/World Institute for Development Economics Research (Ch 1)

was "an urgent need to stabilize the economy and reduce the budget deficit." For all three countries, attracting foreign direct investment was a priority. The motivations for privatisation will have significant implications for the distribution of benefits to stakeholders. In the case of water privatisation in Bolivia, the government had guaranteed a 15% return to the company that purchased the industry at the expense of heavy price increases for consumers[5].

6. Governments will also need to consider whether, given their political objectives, the option is open to them **not** to have a programme of reform. If the government does not reform structure or market rules before privatisation, but companies expect that it will do so soon after privatisation, they will only be prepared to pay the lower value of expected profits after the reforms. So the government may receive lower sales proceeds at divestiture, but then find that it has a monopolised industry which can exploit monopoly power, after privatisation. In this case, investors make unexpectedly large profits because their monopoly power remains intact.

7. Turning to the UK, where the utility industries were initially privatised between 1984 and 1990, Newbery[6] reports that Margaret Thatcher (the then prime minister) saw the programme of privatisation "not just as fundamental to improving Britain's economic performance but as central to reversing the corrosive and corrupting effects of socialism". An essential part of this was to create a new political force of small shareholders. Consequently the UK utilities have almost always been sold at less than the 'fair' market value, and share prices rose sharply on the first day of trading. The initial price control for electricity distribution deliberately "allowed margins to rise after privatisation to ensure the reasonable profits forecasts needed for the prospectus and hence to secure an adequate sales price for the assets." The size of the profits earned by the utilities caused a wave of public disquiet and was used by the Labour Party as part of its political programme for election prior to 1997, leading to the implementation of a windfall tax as (so far) a one-off exercise. And the order in which different privatisations and reform take place may be important. The UK government's actions in privatising gas, but reforming the market later, may have reduced the price which it could achieve in subsequent privatisations because the market would expect it to repeat a similar move in that industry.

8. Political objectives will determine the nature of the reform programme that will be undertaken. Latin American countries used a combination of different methods of privatisation – for example the sale of the majority of shares to a private company, public share offering on a stock exchange and employee buyout. Selling a controlling percentage of shares is a quick way of raising revenues for the government. Offering shares of a traded stock broadens ownership base and builds up political support for the privatisation process (but is dependent upon the existence of reasonable size exchange). The method used by Bolivia to

[5] Bayliss, K (2002) 'Privatisation & Poverty: the Distributional Impact of Utility Privatisation', Working Paper 16, Centre for Regulation and Competition, University of Manchester
[6] Newbery, D (2001) 'Privatisation, Restructuring and Regulation of Network Utilities', 3rd edn, MIT Press

privatise the electricity industry is interesting (see Ugaz and Waddams Price). Companies bid for 50% of the shares in the company with 45% remaining with the government and 5% with employees. However, instead of giving money to the government, the company was required to invest its bid money into the industry over an agreed period and to an agreed investment plan.

9. The country needs to consider whether it has the appropriate infrastructure in place that will enable (especially) foreign investors to have confidence that they will be able to earn a fair return on their investment, which in the case of any infrastructure such as wires, pipes and power stations, cannot be moved away. Newbery describes it thus: “Durable investment…requires the rule of law and specifically the law of property which is a public good provided by the state”. He goes on to describe the need for the “economic institutions of capitalism” – an independent judiciary, a competent administration and institutions to manage competition policy and to resolve disputes, which should be extended to include financial institutions such as robust stock exchanges.

Key issue

Countries undertaking a programme of privatisation reform need to have clear objectives for what they want it to achieve. Reform must also be politically feasible not just domestically but internationally – if investment is the objective, the infrastructure needs to be in place that will provide investors with some confidence that they will achieve a reasonable return. Objectives are just as likely to be political as they are economic and are likely to require trade-offs between finance and competition ministries which influence the nature of the reform that is undertaken.

HOW SHOULD REFORM BE UNDERTAKEN?

10. Privatisation and ownership change should be viewed in tandem with other aspects of reform such as liberalisation and the introduction of competition, restructuring and regulation. This view is supported by Zhang et al[7]: "the mixed results from the empirical literature on the effects of privatisation are due to a focus on the ownership variable. Other factors that should be taken into account include the nature of market competition and the role of institutions, such as well-developed capital markets and property rights." This is an important point to note when determining the process and structure of reform to be undertaken.

11. Several other studies have considered the interaction of different aspects of reform and their sequencing. Pollitt, in the electricity sector, found that competition and regulation are more important that ownership. He suggests that the greatest gains come from restructuring.

12. Zhang et al found that introduction of competition was a decisive factor. In their study on sequencing of electricity reforms in 24 developing countries[8], they found that establishing an independent regulatory authority and introducing competition before privatisation is correlated with higher electricity generation and capacity, and in the case of competition before privatisation, improved capital utilisation. Their evidence also suggests that privatisation by itself does not appear to reap the greatest outcome: "Ownership, *per se*, is not decisive but needs to be coupled with other institutional reforms, notably the introduction of either competition or regulation."

13. In Latin American telecommunications markets, expansion of networks has apparently been slower where competition has not been introduced following privatisation, but even in these circumstances private monopolies expanded more quickly than public ones[9].

---

[7] Zhang, Y, Kirkpatrick, C, Parker, D (2002) 'Electricity Sector Reform in Developing Countries: an Econometric Assessment of the Effects of Privatisation, Competition and Regulation', Working Paper No. 31, Centre on Regulation and Competition, University of Manchester, using evidence from Vickers, J and Yarrow, G (1988) 'Privatisation: an Economic Analysis', Cambridge, Mass: MIT Press

[8] Zhang, Y, Parker, D, Kirkpatrick, C, (2003) 'Competition, Regulation and Privatisation of Electricity Generation in Developing Countries: Does the Sequencing of Reforms Matter?' Working Paper No. 62, Centre on Regulation and Competition, University of Manchester

[9] Harris, C (2003) 'Private Participation in Infrastructure in Developing Countries: Trends, Impacts, and Policy Lessons', Working Paper 5, World Bank

14. If this argument is accepted, that the aim is to introduce competition where possible, then the most appropriate industry structure to facilitate its development needs to be created. Restructuring major industries is difficult, and hard to alter once it is underway. It therefore needs to be planned and undertaken carefully. As Newbery points out, the effectiveness of competition appears to be strongly influenced by its "initial endowments". Evidence suggests that it is most appropriate to undertake such restructuring in advance of privatisation, not least because the risk associated with it will be easier to deal with. This view is supported by the World Bank's 2004 report on infrastructure reform: "…for privatisation to generate widely shared social benefits, infrastructure industries must be thoroughly restructured and able to sustain competition. Thus restructuring to introduce competition should be done before privatisation, and regulation should be in place to assure potential buyers of both competitive and monopoly elements". [10]

15. New Zealand adopted an interesting and possibly unique approach to the sequencing of its reform, seeking to use competition alone as the control over the electricity industry. While there was mandatory separation of generation, transmission and distribution, reform proved unsuccessful as competition alone was not sufficient to control pricing in natural monopolies. This led to the imposition of price controls on power suppliers[11].

16. In contrast, the UK rail industry is an example where 'too much' restructuring may have occurred before its privatisation in 1996. Within a decade, some competition, introduced between different rail routes at privatisation, was reversed by consolidation of franchise areas in 2004-05; the privatisation itself was partly reversed by the bankruptcy of Railtrack, the network company, in 2001 and the subsequent transfer of its operations into the not-for-profit Network Rail organisation. Although popularly seen as the least successful of the UK network privatisations, Pollitt and Smith show that in the early years major efficiencies were achieved, consumers benefited through lower prices with no degradation of service, and the increased subsidies paid by government were covered by privatisation proceeds[12]. This assessment did not take account of the major repercussions of the Hatfield crash in 2000, which proved to be a consequence of faulty maintenance, i.e. inadequate regulatory control in a situation where incentives on the maintenance company to save money conflicted with the safety needs of the system. Immediately after the crash there were severe service disruptions, which are only beginning to abate after several years. Many of the problems in this industry

---

[10] Kessides, I (2004) 'Reforming Infrastructure: Privatization, Regulation and Competition', World Bank Policy Research Report, Oxford University Press (abstract)

[11] Patterson and Cornwall (2000) in Bacon, R W and Besant-Jones, J (2001) 'Global Electric Power Reform, Privatization and Liberalization of the Electric Power Industry in Developing Countries', 26 *Annual Reviews Energy and the Environment*, 331

[12] Pollitt, M and Smith, A, (2002) 'The Restructuring of British Rail: Was It Really That Bad?', 23(4) *Fiscal Studies*, 463

arise from the difficulty of writing complete contracts for complex interactions between the many actors in the market, so reintegrating some of them provides a better solution.

Key issue

The fact that countries have undertaken reform programmes with different sequences makes it difficult to compare easily their impact and draw definitive conclusions. However some broad indications are available. If it is feasible, restructuring and the creation of the regulatory agency should take place in advance of other aspects of the reform programme. Evidence suggests that the introduction of competition will deliver the greatest overall benefits and should therefore be an ambition of a reform programme where it is feasible. The experience of rail in the UK provides a good example of the consequences of poorly conceived restructuring.

WHAT MAKES REGULATION SUCCESSFUL?

17. In the section above, the paper examines sequencing and emphasises the role that regulation has in successful reform programmes. This section looks at the nature of the regulatory institution and what conditions are likely to create successful ones.

18. The existence of independent regulation provides the private investor with a degree of comfort that his investment is secure from political intervention. For example, the government may see an increase in profits post-privatisation and decide that they should be expropriated to deal with budget deficits or to reduce taxation and improve popularity. While a regulatory agency cannot provide an insurmountable barrier to a determined government, the fact that it has invested in the regulatory agency signals its intention and commitment not to intervene. Ugaz and Waddams Price point to Latin American countries as an indication of where this has happened and the success at attracting incoming capital. The issue of independence needs to be regarded not only from the perspective of security from opportunistic governments but from the perspective of users of the system and the extent to which benefits are distributed to consumers of utility services. This "hinders tariff negotiations, prevents erosion of monopoly rents and hinders the sharing of productivity gains with consumers" [13]. Independence is interpreted here as the ability to make decisions and not just act in an advisory capacity. The evidence of table 5 suggests that most countries have sought to adopt an independent regulatory office as part of the reform programme.

19. Newbery provides a somewhat pragmatic description of the conditions for successful regulation: "If the regulatory body is independent, reasonably insulated from day-to-day political pressures, has a clear set of objectives and procedures for dispute resolution, and issues licences with legally enshrined rights and obligations to the utilities…then investors are likely to have more confidence in the protection afforded by regulation and its durability". Clearly the ability of the regulatory agency to achieve this is contingent on having the right "economic institutions of capitalism" in place. The World Bank Report of June 2004 reflects this view, saying that "effective regulation – including the settling of adequate tariff levels – is the most critical enabling condition for infrastructure reform. Regulation should clarify property rights, and assure private investors that their investment will not be subject to regulatory opportunism."[14]

[13] supra note 4
[14] supra note 10

20. The programme of reform will not happen overnight and the structure of the programme will very much determine the nature of regulation that is needed. If the industry is restructured prior to privatisation, it is likely that a different regulatory structure will develop to that if it takes place post-privatisation. In any event, it is likely that the natural monopoly of network industries (such as pipes that transport and distribute gas) will always be subject to some form of regulation.

21. It is also the case that the government will want to consider how post-privatisation productivity gains are divided between stakeholders (including itself). For example, the government may wish to prioritise increasing its tax revenue from the industry's efficiency gains over delivering lower prices directly to consumers. It must also take into account the risk that this could affect the willingness of investors to continue their investment.

22. Ugaz and Waddams Price point to the fact that UK regulators have achieved as much through informal persuasion as through formal regulatory measures, working on the assumption (especially in the context of compliance issues) that more will be achieved through quiet persuasion and voluntary undertakings. There is some concern that the nationality of the company affects the ability to achieve this voluntary commitment. However, evidence in the UK suggests that is unfounded.

Key issue

A regulatory agency that is separate from the Executive (and other interference) is likely to deliver the greatest, all-round benefits to those involved in utilities markets – it sends the right signals to foreign investors and (subject to clear objectives) balances the interests of consumers and service providers. There is some evidence that creating regulatory agencies at the start of the reform programme is likely to better facilitate it. Reform of utility industries does not happen overnight and it is likely that the function and focus of the regulatory agency will change over time. Governments should also consider in advance how they want efficiency gains to be distributed post-privatisation.

WHAT ARE THE RESULTS OF INTRODUCING COMPETITION?

23. Analysis by Zhang et al indicates that competition is the most reliable driver of economic benefits leading to improved capacity, a higher output and greater labour productivity. They suggest that "in the light of the benefits associated with competition, reformers should introduce measures conducive to promoting liberalised electricity markets" [15].

24. However, economic theory suggests that the existence of competition will weaken the ability of cross-subsidies to survive, and as such their results are more ambiguous when assessing the likely impact of competition on prices to consumers. Zhang et al highlight the existence of cross-subsidies in nationalised industries which are more likely to favour residential consumers (voters) at the expense of business consumers. They find that "competition does seem to lower industrial prices, but the result is reversed when competition co-exists with regulation." In addition, they note that competition does not necessarily lead to more efficiency in capacity utilisation. They cite the impact of new generation capacity reducing the average utilisation (presumably until an old, less efficient plant is mothballed or closed).

25. Ugaz and Waddams Price point to the evidence of the UK where there was a greater distributional impact from the expected introduction of competition than from privatisation and regulation. The threat alone of the introduction of competition began to erode cross-subsidies which particularly impacted on elderly and low income consumers. This has political as well as welfare implications and a government may wish to consider the steps necessary to address these issues – for example additions to welfare systems, the gradual phasing out of subsidies, the provision of direct subsidies in the form of grants, and so on.

26. The experience of competition in the UK retail market is beginning to suggest that the benefits of liberalisation are limited[16]. The degree of unilateral and joint dominance in the market suggests that a small number of suppliers retain considerable market power which will be to the detriment of consumers. This would imply that it is more difficult to move successfully from ex ante to ex post regulation than the UK initially anticipated. It has also been very costly to introduce retail competition which has required the development and maintenance of complex systems, significant advertising and, at times, extensive costs to consumers as a consequence of selling problems. This would suggest that governments should consider where, within the industry structure, it would be most beneficial, as opposed to feasible, to introduce competition.

---

[15] supra note 7

[16] Waddams Price, C (2005) 'The Effect of Liberalizing UK Retail Energy Markets on Consumers', 21(1) *Oxford Review of Economic Policy* 128

27. Introducing competition into markets where it previously has not existed necessitates a degree of support for consumers, whose active participation is important for ensuring that markets work well. In the UK a statutory consumer agency called energywatch, which is separate from the regulator, has been created to provide consumers with information, deal with their complaints and act as an advocate for consumers with companies, the regulator and government.

Key issue

Evidence suggests that having the introduction of competition (where possible) as the primary objective of a reform programme will deliver the greatest results. While at a macro level, the increase in welfare that comes from the introduction of competition can be significant, it is likely that there will be distributive implications as a consequence of the erosion of cross-subsides, especially where these have been extensive. This can have political ramifications for a government if not effectively addressed. It is important to consider whether introducing competition, wherever it is possible to do so, will deliver the greatest benefits for the costs incurred or likely to be incurred. For example, would wholesale electricity competition deliver sufficient, sustainable benefits without competition at a retail level (which has proven costly to deliver in the UK)? If competition in retail markets is undertaken, consideration should be given to what support consumers might need to take part in competitive markets.

WHAT BENEFITS (AND COSTS) WILL BE DELIVERED BY REFORM, AND TO WHOM?

28. Early cases of private participation, studied in detail in the telecoms, power and ports sectors showed substantial welfare gains to the government, consumers, investors and, often, workers (Galal et al[17]; Newbery and Pollitt[18]). The main sources of benefit were increased investment to bring service to new customers, lower prices and improved productivity and efficiency. While service may be geographically more accessible, higher prices may mean that poorer consumers cannot take advantage of this in practice. These issues are explored in more detail below.

29. Broadly speaking, where evidence is available of the overall impact of reform programmes and their effect on productivity, the findings are positive. The effects for government and investors are overwhelmingly positive, while the impact on consumers is significantly more variable, as can be seen from table 5.

Government

30. The most likely benefit to accrue to a government from a reform process is an increase in revenue. The table below, taken from the World Bank, provides details of the fiscal proceeds available to five countries from their reform programme to date.

Table 1

Summary of fiscal proceeds

Country	Fiscal proceeds (millions US$2,000)	Ratio of fiscal proceeds to consumer surplus (US$2,000)
UK	74,083	8.8
Spain	1,148	0.8
Argentina	44,488	65.5
Bolivia	1,045	107.5
Peru	8,134	155.2

Source: World Bank 2001

31. Comparing the ratio of fiscal proceeds raised through the reform process for these five countries to the consumer surplus in table 1 above, it is clear that the Latin American

[17] Galal, A, Jones, L, Tandon, P, Vogelsgang, I (1994) 'Welfare Consequences of Selling Public Enterprises: An Empirical Analysis', Oxford University Press

[18] Newbery, D & Pollitt, M (1997) 'Restructuring and Privatisation of the CEGB - was it worth it?', 45(3) *Journal of Industrial Economics*

governments have secured greater gains for fiscal proceeds relative to consumers than in the UK or Spain. One explanation for this is that the degree of subsidisation that governments provided and which was subsequently relieved by private investment was significantly greater in the Latin American countries.

32. Ugaz and Waddams Price point to the political gains made by governments from reform - losing responsibility for capital intensive industries allows governments to insulate themselves (if only to some degree) from unpopular events such as price rises and power cuts.

Key issue

Evidently the most significant benefit to a government from a reform programme is the increase in revenue that it will generate either from the sales process or the relief from investing in capital intensive industries. The scale of the benefits available is dependent on many variables, not least the degree of subsidisation that the government previously bore. A more indirect benefit of reform is that it insulates the government, at least partially, from politically sensitive industries that provide basic necessities.

Consumers

Consumer welfare is generally understood by examining the extent to which prices have changed, and quality and access to services has increased (and to which consumers). However in this area, as with sequencing discussed above, there is no consistent approach that has been taken in assessing the impact of reform. For example, in the case of Argentina, Delfino and Casarin[19] describe losses for consumers in the reform of the gas and sanitation industries whereas Shirley[20] found that private participation in water and sanitation led to an increase in domestic welfare benefits of $1.4bn in Buenos Aires. There is little research available which examines the preferences of individuals as consumers or citizens i.e. do people prefer lower utility prices or lower taxes. This may warrant further examination. Table 2 from the World Bank nevertheless provides some indication of the scale of the consumer surplus that reform in 5 countries provided:

Table 2

Summary of consumer surplus

Country	Net consumer surplus (thousands US$2,000)
UK	8,417,000
Spain	1,471,576
Argentina	679,564
Bolivia	9,723
Peru	52,418

Source World Bank (2001)

33. Ugaz and Waddams Price summarise the effect of some reforms on consumers in tables 3 and 4 below. Comparing table 3 to 4 emphasises that the overall effect on consumers is likely to be very different for mature and immature systems. Their assessment of gains to new consumers was more positive, almost by definition since presumably the worst that such consumers could do, would be to remain non-consumers.

[19] Delfino and Casarin (2001) in World Bank report 2004, supra note 10
[20] Shirley (2002) in World Bank report 2004, supra note 10

Table 3

Measuring changes in welfare for existing consumers

Country/ Industry	Years	Ave. change in consumer surplus (US$2,000)	Number of customers (thousands)	Total consumer surplus (thousands US$)	Distributive effects
UK/ Telecoms	1984-97	122	22,000	2,684,000	regressive for pensioners
UK/ Electricity	1990-97	72	25,000	1,800,000	neutral
UK/ Gas	1986-97	207	19,000	3,933,000	regressive
Spain/ Telecoms	1996-2000	62	10,562	654,844	regressive
Spain/ Electricity	1996-2000	71	11,933	847,243	regressive
Spain/ Gas	1996-2000	-13	2,347	-30,511	progressive
Argentina/ Telecoms	1996-97	52.56	1,274	66,961	regressive
Argentina/ Electricity	1996-97	25.82	2,916	75,291	regressive
Argentina/ Water	1996-97	-48.6	5,758	-279,839	neutral
Bolivia/ Electricity	1994-99	-6.48	601	-3,894	neutral
Peru/ Telecoms	1994-97	-4.69	638	-2,990	regressive
Peru/ Electricity	1994-97	-3.72	2,074	-7,723	neutral

Table 4

Measuring changes in welfare for new consumers*

Country/ Industry	Years	Ave. consumer surplus in a given year	Number of new customers (thousands, end of period)	Total consumer surplus gains (thousands)
Argentina/ Telecoms	1996-97	241	1,646	396,686
Argentina/ Electricity	1996-97	179	481	86,099
Argentina/ Water	1996-97	175	1,911	334,425
Bolivia/ Electricity	1994-99	153	89	13,617
Peru/ Telecoms	1994-97	51	1,232	62,889
Peru/ Electricity	1994-97	43	627	27,021

*Note: Summed across different industries over different periods of time

34. Changes in price are generally a consequence of the political objectives of the government and the way in which the reform has been implemented. Zhang et al found that privatisation, even when linked with competition or regulation, does not have a statistically significant effect on residential electricity prices[21]. Meanwhile the threat of competition in the UK had a greater effect on prices to consumers through the erosion of cross-subsidies than the initial

[21] supra note 7

privatisation and regulation of the gas industry[22]. In the case of Argentina and Peru, privatisation led to substantial increases in tariffs because of the existence of extensive cross-subsidies prior to privatisation. In Bolivia, where fewer cross-subsidies existed prior to privatisation, the impact of privatisation on tariff rebalancing was less extreme (though the increases in price *levels* have caused political unrest). The price benefits or increases following reform vary considerably between the different programmes.

35. We have already referred to the extension of networks as a political objective. It is clearly a consumer objective as well. Developing countries and those where infrastructure is severely run down or damaged are much more likely to need to extend access to their networks and reform programmes can significantly affect how this is achieved. Bolivia's approach to infrastructure improvement and extension is innovative – but foregoing the revenue from a sale in exchange for its investment in the network is only an option where the economy is relatively stable and robust. In any event this does not address the issue of who bears the cost of connecting consumers to the network. These costs are likely to be prohibitively high, especially to the rural poor. It is also likely to be the case, as discussed above, that the programme of reform will be eroding cross-subsidies and not creating new ones. Ugaz and Waddams Price point to programmes in Chile where this issue has been dealt with via a direct subsidy from government in the case of water access which "does not hinder or distort competition. Second, it allows utility prices to reflect the scarcity of resources. Third, it can be used to enhance access to services of vulnerable segments of the population…by making government support dependent on their presence in a household".

36. Finally, the World Bank has increasingly focused its attention on the effects on the poor of reform packages which it supports and, as Ugaz and Waddams Price point out, "an assessment of the distributional aspects of reform programmes is a standard part of its specification for assessment bids. This suggests a much more general reassessment of how reform impacts different members of society, rather than the more traditional separation of efficiency and equity which seems to have previously informed aid policy".

[22] supra note 4

Key issue

While it is not possible accurately to determine the full benefits of a reform programme to consumer welfare, evidence suggests that these can be significant but are unlikely to be as great as the benefits to government. Clearly a reform programme that brings in more revenue to government may lead to taxation revenues being used elsewhere to deliver benefits. The nature of reform undertaken can affect consumer welfare and distribution issues may arise. If competition is introduced it is likely that it will lead to an erosion of cross-subsidies which will impact on those consumers who have received the benefits in the past. Finally, attention to the impact of reform programmes on the poor is becoming increasingly important to agencies that might support reform programmes.

APPENDIX

Table 5

Overview of benefits of privatisation

Country	Independent regulatory agency*	Benefits to consumers	Benefits to government	Benefits to investors	Overall benefits	Productivity gains
Argentina	✓	+ -	+	+	+	+
Armenia	✓	-				
Australia	✓	-	+		+	
Austria	x		+			
Bolivia	✓	+ -	+	+		+
Brazil	✓ x	+ -	+	+		+ -
Burkina Faso		+			+	
Canada	✓		+			
Chile	x	+	-	+	+	+
Colombia	✓	+ -	+			+
Costa Rica	✓	+				+ -
Cote d'Ivoire		+	+	+	+	+
Czech Republic	✓	-		+	-	
Dominican Republic	✓	-	+	-		
Ecuador	✓	+ -				+
El Salvador	✓	+				+
Finland	x		+			
Gabon				+		
Germany	✓ x	+	+			
Guatemala			+			
Guinea				+	+	
Hungary	✓	+ -	+	+		
India	✓ x			+		
Jamaica	✓	+				-
Latvia	✓	-				
Lithuania	✓		-	+		
Malaysia	x	+ -		+		+
Mexico	✓	+ -	+	+		+
Namibia				+		
Netherlands	x	+				
New Zealand	x	+ -	+	+		
Nicaragua	✓	+				
Pakistan			+			
Panama	✓	+	+			+
Peru	✓	+	+		+	+
Philippines	✓	-		+		-
Poland	x	-				
Portugal	✓	+	+			
Senegal		+ -		+		
Singapore	x	+ -				
South Africa	✓	+ -		+		
Spain	x	+	+			
Sri Lanka	x	+				
Thailand	x	+	+			
Trinidad & Tobago		+ -	-	-		
United Kingdom	✓	+ -	+	+	+	+ -
United States	✓ x	+	+	+ -		-
Uruguay	x	-		-		+
Venezuela	x	+ -		+		+ -

*✓ and x denote different sector

<u>Sources for table 5</u>

Anuatti-Neto, F, et al (2003) 'Costs and Benefits of Privatization: Evidence from Brazil', Research Network Working Paper R-455, Inter-American Development Bank, Washington DC

Ariyo, A (2004) 'Utility Privatisation and the Poor: Nigeria in Focus', paper for Third Forum on Global Development Policy, Heinrich Böll Foundation, Berlin

Bacon, R W and Besant-Jones, J (2001) 'Global Electric Power Reform, Privatization and Liberalization of the Electric Power Industry in Developing Countries', 26 *Annual Reviews Energy and the Environment*, 331

Bayliss, K (2003) 'Utility Privatisation in Sub-Saharan Africa: a Case Study of Water', 44(4) *Journal of Modern African Studies* 507-531

Bayliss, K (2002) 'Privatisation & Poverty: the Distributional Impact of Utility Privatisation', Working Paper 16, Centre for Regulation and Competition, University of Manchester

Birdsall, N & Nellis, J (2002) 'Winners and Losers: Assessing the Distributional Impact of Privatization', Working Paper 6, Center for Global Development

Bojanic, A and Krakowski, M (2003) 'Regulation of the Electricity Industry in Bolivia: Its Impact on Access to the Poor, Prices and Quality', Discussion Paper 250, Hamburg Institute of International Economics

Bortolotti, B, Fantini, Siniscalso (2001) 'Regulation and Privatisation: the Case of Electricity', published in Amato, G, Laudati, I (eds) *The Anticompetitive Impact of Regulation*, Edward Elgar

Dia, M, N'Guessan, T, Azam, J-P (2002) 'Telecommunications Sector Reforms in Senegal', Policy Research Working Paper 2894, World Bank, Washington DC

Domah, P and Pollitt, M (2001) 'The Restructuring and Privatization of Electricity Distribution and Supply Businesses in England and Wales: a Social Cost-Benefit Analysis', 22(1) *Fiscal Studies*, 107-146

Estache A and Rossi, M A, (2004) 'Have Consumers Benefited from the Reforms in the Electricity Distribution Sector in Latin America?' Policy Research Working Paper 3420, World Bank, Washington DC

Fischer, R, Gutierrez, R, Serra, P (2003) 'The Effects of Privatization on Firms and on Social Welfare: the Chilean Case', Research Network Working Paper R-456, Inter-American Development Bank, Washington DC

Galal, A, Jones, L, Tandon, P, Vogelsgang, I (1994) 'Welfare Consequences of Selling Public Enterprises: An Empirical Analysis', Oxford University Press

Galal and Nauriyal (1995) 'Regulating Telecommunications in Developing Countries: Outcomes, Incentives, and Commitment', Policy Research Working Paper 1520, World Bank, Washington DC

Haggarty, L, Shirley M M, Wallsten, S, (2002) 'Telecommunication Reform in Ghana', Policy Research Working Paper 2983, World Bank, Washington DC

Hall, D (1998) 'Trends in Energy Privatisation in Central and Eastern Europe 1998', Public Services International Research Unit (PSIRU), University of Greenwich http://www.psiru.org/reports/9806-E-CEE.doc

Harris, C (2003) 'Private Participation in Infrastructure in Developing Countries: Trends, Impacts and Policy Lessons', Working Paper 5, World Bank, Washington DC

Hartley, P (2000) 'Reform of the Electricity Supply Industry', Rice University, Houston, Texas

Jamasb, T, Mota, R, Newbery, D, Pollitt, M (2005) 'Electricity Sector Reform in Developing Countries: A Survey of Empirical Evidence on Determinants and Performance', Policy Research Working Paper 3549, World Bank, Washington DC

Jayasuriya, S and Knight-John, M, (2002) 'Sri Lanka's Telecommunications Industry: From Privatisation to Anti-Competition?' Working Paper 14, Centre on Regulation and Competition, University of Manchester

Kessides, I (2004) 'Reforming Infrastructure: Privatization, Regulation and Competition', World Bank Policy Research Report, Oxford University Press

Lopez-Calva, L F, (2001) ‘Private Participation in Infrastructure and Labour Issues: The Privatization of Mexican Railroads’, El Colegio de Mexico

Markou, E and Waddams Price, C (1999) ‘UK Utilities: Past Reform and Current Proposals’, 70(3) *Annals of Public and Cooperative Economics* 371-416

Mota, R (2004) ‘Comparing Brazil and USA Electricity Distribution Performance: What Was the Impact of Privatisation?’ Working Paper 39, CMI Electricity Project, Cambridge

Newbery, D & Pollitt, M (1997) 'Restructuring and Privatisation of the CEGB - was it worth it?', 45(3) *Journal of Industrial Economics*

Rosenberg, B and Kelsey, J, (1999) ‘The Privatisation of New Zealand’s Electricity Industry’, paper prepared for international seminar on the "Impact of Privatization of The Electricity Sector at the Global Level", September 20-27 1999, Mexico City

Toba, N (2003) ‘Welfare Impacts of Electricity Generation Sector Reform in the Philippines’, ERD Working Paper Series 44, Asian Development Bank, Manila

Torero, M (2003) ‘Peruvian Privatization: Impacts on Firm Performance’, Research Network Working Papers R-481, Inter-American Development Bank, Washington DC

Ugaz, C and Waddams Price, C (eds) (2003) ‘Utility Privatization and Regulation: A Fair Deal for Consumers?’ Edward Elgar/World Institute for Development Economics Research

World Bank Electricity Regulations Database 2001-2002 (published April 2004) http://econ.worldbank.org/files/35084_electricity_reg_data-wps3286.xls

World Energy Council (1998) The Benefits and Deficiencies of Energy Sector Liberalisation http://www.worldenergy.org/wec-geis/publications/reports/current_cls/ClsTOC.asp

Zhang, Y, Fitzpatrick, C Parker, D (2002) ‘Electricity Sector Reform in Developing Countries: An Econometric Assessment of the Effects of Privatisation, Competition and Regulation’, Centre on Regulation and Competition Working Paper No. 31, University of Manchester