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POLICY RESEARCH WORKING PAPER

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Regulation, Institutions, and Commitment in the British Telecommunications Sector

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In the past decade the United Kingdom has emerged as a pacesetter for institutional change in the telecommunications sector. Investment in the sector has jumped, despite the uncertainty one might expect from the United Kingdom's inexperience with public utility regulation, from its lack of constitutional protection against governmental and regulatory discretion, and from continuing institutional change.



Summary findings

In the past decade the United Kingdom has emerged as a world pacesetter for institutional change in the telecommunications sector. In particular, British Telecom has been divested, price-cap regulation has been introduced, a new regulatory institution (OfTel) has been set up (with its Director General of Telecommunications), and the market has been opened up to increasingly more competition.

At the same time, investment in the sector has jumped, despite the uncertainty that might have been created by the United Kingdom's lack of modern experience with public utility regulation, by the lack of constitutional protection against governmental and regulatory discretion, and by continuing institutional change.

Part of the reason for the investors' confidence may be the government continuity resulting from a series of Conservative election victories. But Spiller and Vogelsang emphasize the nature of British Telecom's privatization and the restraint on discretion achieved by

basic features and specific details of the regulatory process.

In particular, the use of the license as an instrument to stipulate pricing and access regulations, and the use of several agencies to check on license amendments, have a strongly stabilizing influence.

Spiller and Vogelsang show how the regulatory process provides commitment even when there are personnel changes among regulators and government officials, so long as changes in government are not long-term. This commitment — based on the British courts' tradition of upholding contracts — is supported by a number of weak but mutually reinforcing pillars.

Changes in the United Kingdom's regulatory practice — such as the gradual tightening of price-cap regulations — can be interpreted largely as adaptations to increased competition and to the more favorable cost and demand conditions British Telecom faces.

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**REGULATION, INSTITUTIONS AND COMMITMENT:
THE BRITISH TELECOMMUNICATIONS SECTOR**

by

Pablo T. Spiller and Ingo Vogelsang*

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1. Introduction.

1. The UK has been among the pace setters worldwide in institutional change of the telecommunications sector. In the last ten years British Telecom has been divested, a novel regulatory scheme (RPI-X or price regulation) has been introduced, a new regulatory institution (OfTel with its Director General of Telecommunications) has been set up, and competition has been established in customer premises equipment, value added network services (VANS) and in the network. Investment in the sector has jumped in spite of the uncertainty that might have been created by the lack of modern experience with regulation of private utilities, by the intrinsic discretionary powers of the UK government in administrative decisions, and by the continuing institutional change. Private investors, however, have shown a remarkable confidence in the future of the sector.

2. A distinguishing feature of the British political system is its lack of constitutional protection against regulatory discretion. Traditionally, the party in power controls both Parliament and Government. Furthermore, and perhaps as a consequence, active judicial oversight over regulatory bodies has been traditionally lacking. Thus, UK governments and regulators cannot easily commit not to use administrative discretion to expropriate part of a regulated firm's specific assets under tight regulation. Even if courts rejected a particular regulatory interference the Government could undo the court order through new legislation or through following a slightly different procedure. The puzzle to be solved then is how were the Conservative governments of the 1980s able to privatize the telecommunications, electricity, water, gas and airport sectors? In other words, if UK governments have, in principle, so much discretion, how would private investors be willing to invest large amounts in sectors so prone for administrative expropriation? How could private investors be convinced that UK Governments would refrain from confiscatory regulation in the future?

3. Part of the explanation for the extent of investors' confidence may lie in the series of election victories by the Conservatives which assured that regulatory changes occurred in a stable political

environment and within the same underlying political views. But, as we will argue below, part of the explanation may also lie in the nature of the privatization and in the evolution and adaptation of UK political institutions. We will emphasize three basic issues: the initial privatization process that was designed to achieve widespread ownership of BT's shares; basic features of the regulatory process that restrain discretion (like the use of the license, enforced by the courts, as the instrument that stipulates pricing and access regulations, the nature and role of multiple agencies in undertaking license amendments against the will of BT, the existence of informal norms that limit ministerial discretion -e.g., the substantive delegation to the Director Generals of regulatory agencies, the use of White Papers to announce intended regulatory or policy changes-, the prior development of competition); and finally details of the regulatory system that limit regulatory discretion (like the use of the price-cap method of regulation).

4. To a large extent, then, the success of the telecommunications privatization and regulatory process in the UK may be seen as the result of the proper matching of exogenous institutions (independent courts, informal norms of proper government, prior existence of agencies like the Monopolies and Mergers Commission or the Office of Fair Trading), and the engineering of the regulatory and privatization process. This does not mean, though, that the regulatory system has no weaknesses. We claim, though that many of its weaknesses are the result of basic commitment problems inherent to the UK system of government rather than of the chosen regulatory structure.

II. General Features of UK Political Institutions and Implications for Utilities Regulation

5. Utilities are fragile industries. A large proportion of their assets are sunk, their technology exhibits, in general, important economies of scale, and, in most developing countries, their customers comprise the voting population of the city or state. Their pricing will always attract the local politicians' interests.¹ Such political sensitiveness to their prices implies that regulatory discretion increases the

¹ See, Goldberg (1976) and Williamson (1976).

risk of administrative expropriation, as the regulators could, following public pressure, undertake various administrative procedures so as to set prices below long run average costs, *de-facto* expropriating the companies' sunk costs.

6. The traditional constitutional defense of "fair" rates of return by the US judiciary,² coupled with the strong tradition of judicial oversight of regulatory agencies, has reduced, to a large extent the state regulators' discretion, providing the necessary commitment power to the US regulatory system, and enabled utilities to expand and provide service in a relatively assured, although, not necessarily efficient, environment.³

7. Private utilities in the UK have not been as lucky. While regulated private utilities existed in the UK for over a century (from the mid 1800s to their eventual nationalization in the mid 1900s), their development was hindered by the nature of the UK political and regulatory system. UK regulation of public utilities from 1850 to 1950 differed substantially from that being then undertaken in the United States. To a large extent the difference resides in the nature of their respective political systems. While the US political system is based on the principle of division of powers, both at the federal and state levels, the UK is based on the sovereignty of Parliament. Not only does the judiciary not play a major role in restraining the administration (see Baldwin and McCrudden 1987), but also the electoral system that evolved in the UK following the Reform Acts of the mid nineteenth century has traditionally granted a single party the majority of seats in Parliament, and hence control over both the government and the legislature. Shugart and Carey (1992, pp:12-13) describe Parliamentary systems à-la UK as

² FPC v. Hope Natural Gas Co., Supreme Court of the United States, 1944, 320 U.S. 592, 64 S.Ct. 281, 88 L.Ed. 333.

³ This does not mean, though, that US utilities, in particular electricity companies, haven't had their share of regulatory difficulties. The inflationary process, the increase in the real price of oil, and the environmental concerns that started in the 1970s required substantial changes in the regulatory process (Joskow 1974). For example, during that period electric utilities were traded at 70% of their book value (see Joskow and MacAvoy 1975). To some extent, though, one of the lasting effects of this period is the increase in the perceived change in the regulatory risk as capacity additions (mostly nuclear) undertaken during the oil shock period were both challenged in Courts by environmental groups and eventually were required to be withdrawn from the rate base. See, however, Gilbert and Newbery (1990) and Lyon (1991) for models that provide efficiency rationales for regulatory investment reviews performed with "regulatory hindsight."

evolving towards becoming "principally 'an electoral college' for determining which party holds executive power." Parliament, thus, is "neither a legislature, as legislative authority is concentrated in the cabinet, nor very representative, at least on the level at which its members are chosen, since the national policy concerns that are expressed by parties capable of winning national power become paramount."

8. Politics in the UK have, as a consequence, tended to evolve towards party politics, with members of Parliament becoming more interested in the preservation of, or the taking of, governments than on narrow constituency issues.⁴ Cox (1987) calls such evolution, the "efficient secret," as it makes a legislature originally based on narrow interests (i.e., regional representation) to take a national perspective in its legislative activities. Since backbenchers' dissent would risk government survival, party and parliamentary organization developed so as to substantially restrain the potential for internal dissent. One way to diminish backbenchers' dissent is by centralizing all legislation on the front-benchers, and conditioning legislative success to "proper" behavior. In this way, the organization of the UK parliament provides much less room for individual members' initiative than, for example, the organization of the US Congress.⁵ Party power has not only been exercised at the level of parliamentary organization, but also at the level of allocation of party resources, thus making individual attempts to regain office much more aligned with party than with individual performance.⁶

9. Thus, the evolution of the UK political system has created, to a large extent, a two party system, with a relatively homogenous Parliament, providing single parties with control over both the executive and the legislative branches of government. The fact that coalition governments are not the norm in modern UK, implies that even minor electoral changes at the national level may have important

⁴ This, however, does not mean that MPs will devote no time to servicing their constituency. They would, as it would still help them to get reelected, particularly in marginal districts. See, Cain, Ferejohn and Fiorina (1987) for evidence on constituency service and reelection probabilities in the UK and the US. What it means, though, is that legislative proposals would have to be compatible with the "Party line."

⁵ See, Cain, Ferejohn and Fiorina (1987).

⁶ See Cox (1987) and Cain, Ferejohn and Fiorina (1987).

policy consequences.⁷ In the light of the need to undertake large sunk investments, the potential for policy changes requires the development of formal and informal institutions (or norms) to restrain, to some extent, governmental discretion. We focus here on three such informal norms: the use of a permanent bureaucracy, the commissioning of White Papers before undertaking major policy changes, and finally, the delegation of substantive powers to regulators.

10. Consider, first, the use of a relatively stable bureaucracy to staff senior governmental positions. Changes in the party in government in the UK have traditionally had minimal consequences on the senior staff of government departments. Their stability, then, tends to limit at least to some extent, the potential for rapid changes in policy.⁸ Fesler (1983, page 88) provides evidence that the ratio of high-political to high-career officials in Great Britain and France is 1:40 while in the US is 1:5 and in Germany is 1:80.⁹ A second important norm of governmental decision making consists in the use of White Papers in providing notice about upcoming policy changes. As we will see below, in discussing the evolution of telecommunications regulation (see Boxes 1 and 2), most regulatory changes have traditionally been undertaken following the commissioning by the government, or regulatory agency, of a report about the issue. While governments do not necessarily follow the recommendations included in those reports, their commissioning plays two major roles. First, it announces the intention of the government to undertake a particular policy change. Thus, it provides the opportunity to interest groups to lobby the government and parliament about this issue, and to provide their own independent report. Second, the commissioning of a report delays the government's decision, thereby limiting policy

⁷ This would be the case if a government holding a slim parliamentary majority loses the election to the other party which gains control of Parliament also with a small margin.

⁸ Compare this to the US Federal Government, whereby all senior staff appointments are of a political nature. In the UK, on the other hand, permanent secretaries have traditionally been maintained following changes in party government. See, Fesler (1983). See also, Deutsch, Dominguez and Hecló (1981).

⁹ Hecló (1977, page 107) also notes that, compared to the U.S., he "[does] not know of any other developed Nation in which the executive management of the government's senior civil service is left to the tender mercies of temporary political appointees". Furthermore, "...political appointees are simply uninterested. Effective management of the higher civil service is of immense long-term importance. But nothing will have very much effect during an appointee's own short time in office. Most appointees behave exactly as you and I would if faced with the same incentives: they exploit careerists and do little to build career institutions." See, Hecló (1977.).

changes taken in haste and without public and political consultation.¹⁰ Finally, as we will see below, while ministers retain formal powers in undertaking major regulatory changes that involve license amendments, such changes have to be undertaken following the recommendation of the respective Director General (DG) of the regulatory office. Although a Minister could, in principle, discard the opinion of the DG, such action would imply deviating from an informal norm of delegation. It seems to be quite well understood, that a positive recommendation by the DG is required for the Minister to implement a particular change. Similarly, if the Minister does not want to implement a recommendation of the DG there is a very well specified process that needs to be fulfilled. Otherwise, the Minister must follow the DG's recommendation.¹¹ Since the DGs are appointed for longer periods of time than those of the usual Minister that appoints them, substantive delegation to DGs provide for a measure of policy stability, limiting, to some extent, drastic regulatory changes following minor electoral changes.

11. We do not claim that these informal norms are enough to guarantee policy stability.¹² As we will see below, regulatory policies in the UK have not traditionally been very stable. What we claim is that in designing formal regulatory institutions for the telecommunications sector, the UK had the potential to base those formal institutions on the existing informal norms of governmental decision making. Since changing those norms simply to obtain a particular policy outcome in telecommunications is very expensive, basing the formal institutions on those "exogenous" institutions would provide some more stability to the regulatory system.

12. Finally, the judiciary also plays a role as an "exogenous" institution on which regulatory policy could be based to restrain governmental discretion. Judiciary review of regulatory decisions, however,

¹⁰ To a large extent, the informal norm of using White Papers to support and announce policy changes is not different from the role the Administrative Procedure Act has in the U.S. as discussed in McCubbins, Noll and Weingast (1987).

¹¹ This issue was repeatedly mentioned to us in interviews with the DGs of Telecommunications, Fair Trading and Electricity, and with members of the MMC.

¹² See, Calvert (1992) for a discussion norms as equilibrium phenomena.

is not customary in the UK, although it is becoming more frequent in particular at the local government level, as conflict between local and central government has become accentuated.¹³ At the national level, though, it is not a strong weapon for the regulated firms and intervenors,¹⁴ as regulators can make decisions in such a way as to prevent judicial review. Judicial review can be initiated on procedural grounds or if the regulator's decision has been unreasonable. Unreasonableness, however, provides very little grounds for a judicial appeal, as the regulator is not required to provide a lengthy explanation of the grounds under which a particular decision (e.g. the granting of a cable license) was made (see, Baldwin and McCrudden 1987, p.292-293). On the other hand, the UK courts have a strong tradition of upholding contracts among private parties. Thus, it is not surprising that regulation of utilities in the UK has taken the nature of the granting of licenses, which explicitly specify a particular regulatory process (i.e. price setting). Since licenses specify a particular process, procedural grounds are easier to find, preventing regulators from deviating too much from such process.¹⁵

13. The fact that most public utilities were until recently in government's hands suggests that at least in the first half of this century institutions that would constrain regulatory discretion either were not developed, or did not withstand political changes. Similarly, if, for example, a US style rate of return regulation would be undertaken in the UK, rate reviews may not be able to guarantee the companies a particular return. Would the Courts reject a particular price setting process for being "unfair,"¹⁶ the government in power could, in principle, pass legislation making legal that particular pricing style,

¹³ Baldwin and McCrudden (1987, p.57), quoting from Sir Michael Kerry, the former Treasury Solicitor, observe that judicial review of administrative agencies has "increased from a handful a year in the 60s to 50-100 in the early 70s, to a rate of about 400 a year in the first six months of [1982]." Furthermore, "he reported that most of these cases 'come under two main heads, applications to quash planning decisions... and immigration cases.'" See, Kerry (1983, p.168) and Young (1985).

¹⁴ Although judicial review may be effective in resolving disputes among branches of government. See Baldwin and McCrudden (1987, p. 59) for a discussion of this issue.

¹⁵ In private conversation the Acting Director General of Telecommunications, Mr. Wigglesworth, mentioned that Oftel lawyers recommended against unilaterally amending BT's license in the *Chatlinec* case according to the DGT's proposed change, because of the MMC's failure to support the proposals put forward by Oftel. It was alleged that such unilateral move could have been easily challenged in Courts. See Section IV.c.ii. for a discussion of the case.

¹⁶ We use the term "fair" here as meaning providing the company at least its cost of capital.

without further judicial recourse.¹⁷ Thus, the use of US style rate of return regulation would require the prior development of particular norms of behavior vis-a-vis the Courts that did not exist at the time, and that may, in any case, take a long time to develop. In other words, some alternative method of regulation was required. One that would restrain administrative discretion through the use of both "exogenous" institutions and through the design of regulatory processes and features compatible with the "exogenous" institutions of the UK.

III. Regulation and Commitment: The Historical Evidence Prior to BT's Privatization

a. Public Utility Regulation in the UK Before the Second World War.

14. As early as 1880 the Post Master General at the Post Office had become responsible for the issuing of licenses to potential suppliers of telephone services. License holders were either private companies or municipal authorities. The difficulties in regulating all these companies and the lack of an integrated national network induced the Government, in 1912, to let the Post Office take over the entire telephone system, except for the networks in a few municipalities including Kingston-upon-Hull,¹⁸ and to grant the Post Office, a Department of State, a statutory monopoly in telecommunications. This statutory monopoly was finally abolished in 1984 at the time of BT's privatization. Thus, the period of private ownership in telecommunications prior to 1984 was very short, and its historical record very poor. On the other hand, private ownership of other utilities lasted almost until the end of World War II, and the regulation of utilities is well documented. Elsewhere, we provide an in-depth analysis of the way utilities were regulated during a long and relatively stable political period, from 1880 to the

¹⁷ See Salzberg (1990 and 1991) for an analysis of the extent of independence of the UK judiciary as it relates to judicial review of administrative decisions. If the UK polity would have developed an informal norm of conduct stipulating that Parliament should not reverse a Court decision, then Parliament's sovereignty would have been abdicated with important policy implications. In fact, Salzberg (1992) shows that the opposite is true. The probability of a lower court justice being promoted increases the more that justice followed government policies.

¹⁸ Earlier, in 1869, the Post Office had taken over the entire telegraph system and in 1897, following widespread public dissatisfaction, it had taken over the private sector trunk lines. The network in the Hull area, today trading under the name Kingston Communications (Hull) plc, is still owned and operated by Hull City Council. For a discussion on the early history of telecommunications see Hazlewood (1953). Kingston-upon-Hull's local service monopoly extends for 120 square miles. Today Kingston Communications plc has about 150,000 customers. While the Kingston setup provides for an interesting learning experiment, it has not evolved into a competitor outside its immediate territory, nor have there been imitators.

beginning of WWII.¹⁹ Here we provide only a summary of the main lessons from that period.²⁰

15. There are four major lessons that can be derived from this period: first, an analysis of public utility legislation will show that parliament's discretion over regulatory matters has indeed been very large throughout the period, as the way different utility sectors were regulated was frequently changed through legislation. Second, and perhaps so as to counter the extent of parliamentary discretionary powers, utilities were regulated through the issuing of very specific licenses, which specified maximum prices, rates of return, sale and takeover provisions, as well as *eminent-domain* features of the utility. Third, while the licenses provided effective safeguards against relatively minor changes in regulatory vision, they did not withstand major changes in technology, at which point Parliament unilaterally changed the operating rights of these utilities, as was done following the creation of the Central Electricity Board in 1926. Finally, although Parliament exercised the power to unilaterally change the companies' operating rights, such changes were done in a way that preserved, to a large extent, the profitability of the affected companies. Those affected by the change in operating rights were given very favorable transitory rights that would have substantially compensated for whatever losses arising from compulsory shut downs or takeovers. Thus, substantial care was given to provide protection to the owners of the companies against "unfair" expropriation, or arbitrary shutdown. Whether this was the result of informal constitutional constraints or of the political vision of the day, however, cannot be ascertained.

*b. Regulatory Developments in Telecommunications Prior to Privatization.*²¹

16. Until quite recently the British telecommunications services sector could be safely identified with

¹⁹ The 1850s is the period in which Parliament consolidated its control over policy, and in which the current political system of the UK developed. See Cox (1987).

²⁰ See Spiller and Vogelsang (1993) for a more detailed analysis. Interested readers may also want to consult Dimock (1933), Self and Watson (1952), Keen (1925), and Hormell (1928).

²¹ This section has benefitted from the discussion in Doyle (nd).

British Telecom (BT) and its predecessor, the telecommunications division of the British Post Office. The Post Office controlled, maintained and developed both the telephone network and controlled the supply and maintenance of terminal equipment. The Post Office operated as a Department of State under the direct control of a Minister of the Crown until 1969, at which time it was converted into a public corporation. The Post Office had three business centers, Posts, Giro, and Telecommunications and Data Processing, each of which had its own profit and loss accounts and balance sheet. The Telecommunications Division was separated from the Post Office in 1981 when BT became a public corporation in its own right. In 1984, before its privatization, BT was converted into a public limited company (BT plc).²²

17. Prior to privatization, telecommunications policy, as relates to prices, investments, and technology adoption, was the result of the interaction among many players, the Post Office (and later on BT), the Secretary of State, Parliament's Select Committee on Nationalised Industries, and user groups as represented, for example, in the Post Office Users' National and Regional Councils. The post war period has seen substantial amount of regulatory changes in relation to telecommunications policy, and to the control and organization of the Post Office (and later on, BT). See Boxes 1 and 2. Most of these regulatory changes did not involve specific legislative acts, but rather governmental decisions, promoted through the commissioning of White Papers and undertaken via executive orders rather than legislation.

18. The fluidity of governmental policy suggests that post war governments had substantial

²² UK public enterprises have usually been organized in three ways: First, as a department of a particular ministry; second, as a public corporation; and finally, as a private company organized according to the Companies' Act, only that its majority shareholder is the government. The level of involvement of the Minister, and of Parliamentary committees (in particular the Select Committee on Nationalised Industries), falls as we move from a Department of State to a public corporation, to a private company where the government is the majority shareholder. The main difference between the first and second type of organization is that in the latter the company may borrow and can maintain its own reserves. Its board, rather than being headed by a Minister, as in a Department of State, is appointed by the Minister, who is also directly involved in the company's long term strategic planning, while leaving to the Board the day to day management. In either case, though, the government has substantial discretion on the management of the enterprise. The private company form of organization, though, limits slightly more government discretion.

discretion over regulatory policy and prices, although not necessarily over the management of the telecommunications operator. As either public corporation or a department of state, the telecommunications division of the Post Office and later on BT under public ownership, had serious management problems, arising, to a large extent from political interference and the lack of managerial incentives (Moore 1986). Over time most of the regulatory changes, until BT's privatization, were attempts by the incumbent government to reduce (or formalize) either the minister's or management discretion. The fact that several White Papers, as well as the 1969 Telecommunications Act, tried to limit the scope of ministerial interference, suggests the extent of government inherent inability to commit not to interfere with the management of the public corporations.

19. The extent of government interference can be seen by looking at the movement of telecommunications' prices and profitability since the late 1960s. Figures A1 and A2 show the evolution of real residential prices for local and long distance calls and for rentals and connection charges respectively. Regulatory price setting prior to privatization, however, left no written traces, as most of the price setting process was undertaken informally between Government and the Post Office. While most price changes were granted without much confrontation between management and Government, that was not the case in the mid-1970s, where Government interfered heavily in the price setting process. The period up to the financial crisis of 1975,²³ shows attempts to maintain the subsidization towards local users, mostly through increases in long distance prices. Starting in 1976, however, there is a reversal in the trend of relative prices. Long-distance rates start to go down while local rates start to go up. By 1980 local rates have nearly tripled while long distance prices have declined by one third (both in real terms, see Figure A1). While this indicates a move towards more cost-based pricing,

²³ In the early to mid-1970s the UK Government finances experienced severe problems, with the fiscal deficit as measured by the PSBR (public sector borrowing requirement) exceeding 8% of GDP in 1974 and 1976 and reaching 11.2% in 1975. From 1973 until 1977 the financial state of the public corporations taken as a whole was very poor. In 1974, 1976 and 1977 the debt burden of the public corporations was slightly in excess of 1% of GDP. Inflation was, in historical terms, very high in the middle of the 1970s, reaching a peak of 24.22% in 1975. The balance of payments on the current account was significantly in the red between 1973 and 1976, reaching an alarming 4.42% of GDP in 1974. See the Select Committee on the Treasury and Civil Service 1980/1, Report on the Financing of the Nationalized Industries, HC 348, London: HMSO.

BOX 1**Specific Telecommunications Policies from 1960 to 1980****The 1969 Post Office Act**

- The Minister to make appointments to the Board
- The Minister to control investment program and borrowing
- The Post Office to provide universal service
- A Post Office Users' National Council (POUNC) and three county councils for Scotland, Wales and Northern Island to monitor the Post Office from the consumers' perspectives.
- The Post Office had to consult with the POUNC before implementing any major initiative. The POUNC to make recommendations to the Minister
- The Post Office to become a Public Corporation.

The Carter Report of July 1977

- Indicated the exerciser of market power by the Post Office
- Indicated that the 1969 Act provided few incentives to lower costs
- Criticized the accounting system and data availability
- Highlighted conflict between managers and the government
- Highlighted lack of accountability and a proper framework for decision making and project evaluation.
- Post Office management was too rigid and managerial salaries were too low.
- Recommending separating Posts and Telecommunications into two corporations.

The 1978 White Paper on the State of the Post Office

- Did not separate telecommunications from post
- Encouraged greater decentralization of decision making

connection and rental charges move away from their cost base. After small real increases from 1967 to 1976, both of these charges start decreasing by nearly 50% in real terms from 1976 to 1980 (see Figure A2). One of the consequences of the latter is a large excess demand for telephone lines in 1980.

20. In the late 1960s and early 1970s the profitability of the telecommunications division of the Post Office was among the highest in the public sector, exceeding or being close to the imposed financial

targets. The relatively high rate of return of this period, given the constraints laid down by the 1967 White Paper and the 1969 Act, are largely attributable to the setting of high financial targets which encouraged some degree of monopoly pricing for long-distance calling, mainly by the business sector. From 1973 until 1975 the performance of the telecommunications division declined markedly, and in 1975 it made an accounting loss, see Figure A5. The reduced financial performance over this period arose because the Government exercised pricing restraint in response to inflation, recession and the

BOX 2

Main Regulatory Changes and Proposals Prior to BT's Privatization

The 1981 Beesley Report

- Recommended unrestricted resale of leased lines (private circuits)
- Recommended allowing BT to freely set prices for private circuits
- Recommended to promote network entry

The British Telecommunications Act of 1981

- Allowed some entry into VANs (to be further relaxed by 1987)
- Terminated BT's monopoly over customer premises equipment (with the exception of the first phone, to be terminated in 1985)
- Allowed licensed network entry
- Separated BT from the Post Office

The 1982 White Paper

- Proposed to sell 51% of BT
- Proposed to create Oftel (the Office of Telecommunications) with a Director General

The Duopoly Policy of November 1983

- Government announced that, for seven years, no nationwide competitor would be allowed besides BT and Mercury to supply fixed-link voice telephony

The 1984 Telecommunications Act

- Creates Oftel and the position of Director General of Telecommunications
- Requires the issuing of licenses for all PTO
- Stipulates process of license amendments
- Brings the MMC into the regulation of licensees
- Silent about price setting, except that is to be determined in the license

oil price shock.

21. In 1976, price increases following the abolition of the price controls resulted in a dramatic financial turnaround of the Post Office and the other State industries. Profits in the telecommunications division of the Post Office reached 15.9% as a proportion of turnover, with telephone charges increasing, on average, by 66%. Additional contributing factors were the incomes policy implemented by the Government, which helped to keep down increments to labor costs, and the reintroduction of financial targets which provided a further justification for increasing prices later in 1977.

22. Political interference not only influenced prices but was also felt in the profitability and investment policies of the Telecommunications Division. Figure A5 shows the effect of the introduction of External Financial Limits in 1975,²⁴ and of the pricing policies of the early 1970s. The Telecommunications Division's profits fell up to 1975, and, from 1975 to 1980 its capital base fell at a rate of 5% or so. Not only its capital base was falling during the second half of the 1970s, but its technology was becoming increasingly obsolete, and as Figure A5 shows, the productivity of the installed capital was falling until 1980. Figure A6 shows, on the other hand, that productivity per worker started to grow rapidly after 1980.

23. The financial difficulties of the Telecommunications Division were mostly over with the price increases of 1976, even though telecommunications prices remained frozen from late 1977 on. See Figures A1 and A2. In 1981 the Conservative government allowed BT to increase its prices to finance investments, and although, as Figure A5 shows, fixed assets started to increase in 1981, such increase

²⁴ EFLs constrain the annual change in the net indebtedness of a public corporation to government. An EFL is a short term policy measure acting like a bankruptcy constraint but with a lack of commitment by the government when it comes to adhering to the limit. EFLs are questionable devices, however, as they may constrain (postponable, but efficient) investment in favor of (necessary) current expenditures.

did not get translated into a dramatic increase in main lines. In fact, Figure A7 shows that the rate of increase of calls and lines was, in 1981, one of the lowest in ten years. In May 1982, and to a large extent because of BT's failure to invest, the government required BT to reduce its prices (see Figures A1 and A2). BT reduced only its long distance prices, though. This was the last attempt by the governments to manipulate BT's pricing and investment policies. By then, though, the government was determined to privatize BT, as seen by the publication of its July 1982 White Paper proposing to sell 51% of BT and to create an Office of Telecommunications (OfTel) for the regulatory oversight of BT.

IV. The Search for Commitment: BT's Privatization and the Introduction of Competition

24. Even though the Tory party did not always have in its platform the privatization of state-owned enterprises,²⁵ during the 1970s a movement inside the party emerged to undo the nationalizations undertaken by previous Labour Governments. While some of the supporters of privatization in the Conservative party saw privatization as a way to improve the fiscal situation, others supported privatization from a clear political perspective. For example, John Moore, the then Financial Secretary to the Treasury saw "people's capitalism" as a way to change the political composition of the nation.²⁶ The privatization of BT seems to have been affected by this view, as it was done in a way that assured widespread ownership of BT's shares across the population. Whatever the reason for its privatization, though, the logic behind the process that started with the 1981 British Telecommunications Act called for competition and private ownership. In this section we show that privatization and competition were undertaken in a way that helped in providing further institutional commitment for private ownership of BT.

²⁵ Bradley (1992), for example, says that "Contrary to its current claim, the Tory party had not always come out unequivocally in favor of free enterprise; its 1970 manifesto had indeed asserted that it was not 'dogmatic' on the subject.As in 1974, the 1979 election manifest simply promised no further nationalization; the emphasis fell on running nationalized industries more efficiently."

²⁶ Speaking at the Wider Share Ownership Council Forum, Mr. Moore said: "Our aim is to establish a people's capital market, to bring capitalism to the place of work, to the High Street and even the home." Quoted in Newman (1986, p 41). Mr. Moore was also a strong supporter of employee share ownership schemes as they were applied to BT and other companies. See Newman (1986, p.150) and Moore (1986).

a. Privatization and Commitment

25. The process that led to the privatization of BT started in November 1982 when a Bill to privatize BT was presented to Parliament, a little over a year after the passage of the Telecommunications Act of 1981 that separated BT from the Post Office. The Bill experienced a series of amendments and it finally received Royal Assent on April 12, 1984.²⁷ The privatization process, though, did not start nor end with the 1984 Act. Apart from the formalities of creating a public limited company and transferring BT's assets to it,²⁸ the decision to sell 50.2% of BT sales, and the actual allocation of shares, there was substantial amount of effort devoted to restructure BT prior to its privatization, and to assure that individual investors would get a large proportion of BT's shares. To this purpose, a massive advertising campaign was initiated even before the 1984 Act was passed, and reached its peak with TV and newspaper ads explaining the process by which individuals could buy BT shares, and what it meant to own shares. The public offer for 50.2% of the shares at 130 pence was opened on November 20, 1984, and trading on stock exchanges began on December 3, 1984.

26. The nature of the incentive schemes as well as the extent of the advertising campaign suggests the government's interest not in just making the privatization a success, but rather in achieving widespread ownership of BT's shares in the UK. In 1983 only 3.8% of the adult population (1.6 million individuals) were stockholders, and in 1981 less than 28% of all UK stocks were held by UK individuals. (See Newman 1986, p. 62 and 81). Achieving a higher percentage of retail ownership in BT, then, would have naturally required substantial incentives and promotional effort. The government approved three main incentive schemes. One incentive scheme was the "telephone voucher" -bonus scheme. The telephone voucher scheme would provide individual investors with vouchers of £18 each. The number of vouchers would increase with the investment and with the length the shares were held by

²⁷ For a discussion of the legislative process up to the passage of the Telecommunications Act of 1984, see Newman (1986, pp:8-11).

²⁸ On April 1, 1984, a wholly Government-owned British Telecommunications plc was incorporated, and on August 6, 1984 all property, rights and liabilities of the public corporation British Telecom were transferred to British Telecommunications plc.

the investor. Alternatively, the individual investor could receive one free share for each ten purchased at flotation time up to an investment amount of £5,000.²⁹ A second incentive scheme consisted of the required stream of payments to purchase the shares. At application time, less than 40% of the price had to be paid (50 pence), to be completed in equal installments in June 1985 and April 1986. A third incentive scheme was designed for BT's employees. BT's 240,000 employees were given three types of incentives: first, free shares were to be given for an approximately value of £70 to each employee. Second, for any investment up to £100 in BT shares at application time, they would receive double that amount in BT shares; and finally, they were allowed to buy up to £2,000 value in shares at a 10% discount.

27. Finally, a major incentive seems to have been BT's price itself. While it was sold at 130 pence and individual investors had to pay upfront only 50 pence, the partly paid shares traded immediately upon opening of the market at 90 pence, and by the end of December they were being traded at 103 pence. By the end of the payout period, April 1986, investors obtained a nominal gain of 110 pence on an investment of 130 pence (not discounted, though). See Figure A3. Not only BT's initial shareholders made substantial paper gains on their investments, but the number of shares applied for by the public was five times the number put up for sale. The extent of underpricing was such that even those that were unsuccessful in their applications and bought in the open market also gained substantially. For example, if an investor purchased the partly paid shares at 103 pence at the end of December 1984 and sold short 103 pence of the FT-500 index, by the end of the payout period (April 1986) would have received a net gain, after the two remaining payouts, of 49 pence.

28. While UK institutional investors obtained the largest share (47% of all shares), the public (including employees) subscribed 39% of the shares, with overseas investors purchasing 14%. More

²⁹ More than 64% of all individual investors chose the share bonus rather than the telephone voucher scheme. See Newman (1986, p.74).

than 1 million individuals purchased less than 400 shares, with the total number of individual shareholders being above 2 million.³⁰ By June 1985, though, the percentage of BT shares held by individuals fell to a more standard 29%, resembling the investment patterns discussed above. Whether the government tried intentionally to achieve widespread holdings or not, the fact is that most of BT's shares remained, directly or indirectly, in residents hands, making regulatory policy, as well as a renationalization, a sensitive political issue.³¹

29. In December 1991, the UK Government reduced its share in BT from 47.7% to 21.8%, cashing in £5.5 billion. This time the government did not follow the same strategy as before, and instead of selling at a prespecified price, it designed a competitive segment where large investors were required to bid for the shares allocated to the large investors segment. Smaller investors would then buy at the price set in the competitive segment, minus a small discount.

30. The 1991 sale signified further commitment by the UK government towards keeping BT in the private sector. At that time the Tory Government of Prime Minister Major was threatened by a Labour Party victory in the upcoming spring 1992 elections. Relinquishing most of the Government's remaining shares in BT certainly was meant, among other things, to make it more difficult for a Labour Government to undo BT's privatization.

31. To summarize, the nature of the privatization suggests that the UK government paid attention to creating institutional safeguards to private ownership of BT (and of the remaining utilities to be privatized). Rather than selling to a consortium run by an international telecommunications operator, BT was sold to the public in the largest ever share issue. Similarly, the Government undertook a

³⁰ The allocation mechanism to handle the oversubscription was inversely related to the size of the application. Thus, for example, those that demanded less than 400 shares obtained their whole application, while those demanding more than 100,000 shares got nothing. See Newman (1986, p.167).

³¹ The Labour Party's conference of October 1984 called, however, for the renationalization of BT, with compensation to be paid on the basis of "no speculative gain." See BT Prospectus, Chapter 3, Attitude of HM Opposition.

massive effort to sell the company in the most widely dispersed fashion. At the time of the initial privatization, more than 2M individuals held shares in BT, with more than 1M holding less than 400 shares. Furthermore, BT's charter prohibits a single individual or institution to hold more than 15% of all outstanding shares. Widespread ownership, however, may come at a short run cost to the government. If we take the value of the partly paid up shares at the end of first day of trading (95 pence) plus the two remaining installments (80 pence) as a measure of what the government could have received by selling BT shares in an open auction (£5.5M), then the government's cost from selling BT in the way it did would have been half of its actual proceeds (£3.6M). This number, though, overstates the cost. If our hypothesis is correct, so that widespread ownership actually provides safeguards against future opportunistic behavior by the government, then, an open auction would have generated much more concentrated ownership in BT's shares, reducing an important safeguard, and hence reducing the value of BT.

b. Competition and Commitment: The Role of Mercury

32. During the first few years of the Conservative Government, the government considered a series of major changes in the structure of BT. See Box 2 below for an evolution of regulatory proposals and regulatory changes prior to the privatization of BT. The first major move by the Conservative Government in its relation to telecommunications was the commissioning of Michael Beesley from the London Business School to analyze the potential for competition in CPE, VANS and the network. The Beesley Report (Beesley 1981) recommended major changes in BT's organization and policies, including resale of private lines, price flexibility and network entry. BT claimed, though, that the liberalization recommended by the Beesley Report would force it to increase telephone line rentals, connection charges and local calls drastically because of the reduced availability of cross-subsidies from international and long-distance calling. The Government feared that such a change in price structure would burden residential customers in favor of business users. (See Bradley 1992, p.28). The Government, then, in the subsequent British Telecommunications Act 1981 did not follow Beesley's

recommendations. It did, however, allow for some entry into the VANS market (which was further relaxed in 1997). More importantly, the Act terminated BT's monopoly for customer premises equipment (with the exception of the rental of the first phone on an exchange line for which BT's monopoly only ceased in 1985) and allowed for licensed network entry.

33. Promoting competitors to BT had two distinct incentive effects on a to be privatized BT. On the one hand it reduced its potential profitability, as competition will reduce prices in the contested segments. On the other hand, it reduced the ability of the regulator to behave opportunistically vis-a-vis BT. If prices were to be set too low for BT's customers, BT's competitors would be affected, as customers would shift to BT. Thus, not only BT but also its competitors will lobby against attempts to set too strict price standards for BT.

34. Competition was introduced before BT's privatization and without breaking up BT. It is conceivable, though, that fiercer competition could have been achieved much faster if BT would have been broken in several regional and functional companies. Breaking BT, however, would have required a substantial restructuring (or rebalancing) in BT's prices, at a strong political cost, that could have threatened the privatization process itself. In particular, local and rental charges would have gone up faster than they actually did (Vickers and Yarrow 1986, p. 237-238). See Figures A1 and A2. Thus, the fact that BT was privatized as a whole may not simply reflect fiscal circumstances, but also an understanding of the price implications of competition.

35. The Telecommunications Act of 1981 allowed the government to license network competitors to BT. On June 25, 1981 a consortium consisting of British Petroleum, Barclays Merchant Bank and a just privatized Cable & Wireless (C&W) applied for a license for its project Mercury to supply telecommunications network services in competition with BT. BT immediately responded by publicly threatening price increases, and some price increases were actually implemented after Mercury's

license had been granted in principle in August 1981. In February 1982 Mercury officially received a 25-year renewable license.³² Figure A1 shows that BT's rate rebalancing started well before the privatization, and seems to even predate Mercury's license application. Originally, Mercury's license was quite specific, requiring Mercury to build a fibre optic network in the shape of an '8' connecting 30 specified cities and limiting Mercury's market share in voice telephony to 3% of that of BT. The latter restriction was meant as a safeguard for BT's envisaged large investment program in expansion and modernization of its network. Within a year, however, the limitation on Mercury was dropped and Mercury was to become BT's competitor for all services. Now, it was Mercury's (and since its takeover in 1984, C&W's) turn to ask for protection from competition in order to commit the funds for its increased investment required (Beesley and Laidlaw 1989).

36. Trying to simultaneously help both, BT and Mercury, the Government announced its Duopoly Policy in November 1983. The Duopoly Policy stipulated that, for the next seven years, no nationwide competitor besides BT and Mercury would be licensed to supply public fixed-link voice telephony. Outside fixed link network services, though, the government had licensed two operators of mobile cellular networks (Cellnet, 60% owned by BT, and Racal-Vodafone), and awarded 11 pilot cable franchises that could, eventually, be used for telecommunications services. The Duopoly Policy, which was announced after the decision to privatize BT, seems to follow the same logic as maintaining BT intact, namely, to allow for a more gradual transition to competition, without impacting too strongly on prices.

37. Mercury's start, however, was rather slow and bumpy. As a result, Mercury's market share in UK communications remained minuscule throughout the 1980s. Over the last three years, however,

³² The right to offer international switched services was only granted in 1983, and in November 1984 Mercury's license was modified to include full switched service. Mercury's license resembles that of BT but differs in two major ways. First, Mercury is not subject to price regulation and, second, Mercury has no universal service obligation to provide services throughout the UK. Mercury does, however, have to provide services in specified urban areas.

Mercury has been growing very fast, and by 1992, has achieved a significant 6% share in the whole U.K telecommunications market. Mercury currently has 250,000 customers, and 96 out of the top 100 UK corporations are using Mercury's network.³³ Mercury's cumulative investment in plant and equipment, which stood at £1.5 Billion in 1992, is forecasted to double by 1995. Mercury's ambitious investment program has definitely been helped by the financial strength and profitability of its parent (Cables & Wireless). In recent years, however, Mercury's own profit growth has been enormous so that self-financing of its investment becomes a realistic possibility. After making losses until fiscal 1988 Mercury made its first profits of £17.7 million in 1989. Three years later, in 1992, it had a trading profit of £155 million on a turnover of £915 million.

38. By the end of the Duopoly Policy, then, Mercury became a viable competitor, and one whose financial interests cannot be taken lightly by the regulator. Although BT's license modifications do not require the participation of outside interests, Mercury was involved in all three license modifications, providing Oftel with its own recommendations for license changes.

39. To summarize, the way network competition was introduced into telecommunications had the effect of providing further commitment towards private ownership of utilities. First, by limiting network competition it allowed for a more gradual rebalancing of BT's rates, thus limiting the political cost of the privatization of BT. Second, by creating a viable competitor, the regulator was forced to take its financial interests into account. Finally, BT found in Mercury a strategic supporter in its bargaining with the regulator over price cap levels. Thus, both the way privatization was undertaken and the way competition was introduced had commitment implications, and must have played a role in the performance of, and investment decisions in the sector.

³³ Having a completely digital (fibre optical and microwave) network, Mercury holds some quality advantage over BT. Beyond that Mercury's success in the market is at least partly explained by its ability to underprice BT which is again partly explained by BT's unbalanced rate structure. On the other hand, Mercury is suffering from unequal access. In particular, customers have to change their telephone numbers if they switch from BT to Mercury. As a result Mercury has initially concentrated on high-volume customers. From the beginning it priced about 12-15% below BT's rate, a difference that has proved to be fairly stable over time (Bradley, 1992).

c. The Modern Regulatory Process and Commitment

40. The UK administrative tradition is one of loose administrative processes. (See Baldwin and McCrudden 1987). To a large extent, most agencies (including those regulating utilities) work, from the public perspective, in the dark. Public hearings are exceptions (the Monopoly and Mergers Commission is one such exception), the agencies do not have to substantiate their decisions (such actions would open them to potential judicial review), and the standards of judicial review are very lax (based mostly on reasonableness). Thus, to restrain regulatory discretion particular procedures need to be specified. (See Veljanovski 1991).

41. The modern regulation of utilities follows the UK regulatory tradition of granting licenses, and in using the license to restrain administrative discretion. The license stipulates what the enterprise can do, upon which law its regulation is based (all British Telecom's licenses have so far stipulated that its regulation is based on the British Telecommunications Act of 1984), and the nature of the price regulation method that applies to the company. The Act, which precedes the granting of the license, also specifies the way under which the license can be amended. In principle, since the license is a contract between the government and the utility, licenses could be amended with the agreement of the two parties. The Act allows, though, for a very specific process to amend the license both with and without an agreement between the government and the company.³⁴

42. As will be discussed in detail below, the nature of the regulatory process provides substantial commitment, although not a full fledged one, to follow the regulatory bargain struck at privatization time. The regulatory process, coupled with the nature of UK's exogenous institutions (e.g. the courts, the informal norms of governmental decision making), substantially reduces the potential for drastic regulatory changes without the consent of the regulated company. Several features that characterize

³⁴ This feature of the UK regulatory process differs from Jamaica's, where the license cannot be amended except by the agreement of both parties. See Spiller and Sampson (1993).

the regulatory process limits the extent of government's regulatory discretion: First, there is a very precise and complex process to amend the license against the wish of the company. Second, since the main regulatory features are enshrined in the license, major regulatory changes have to follow the specified license amendment process. Failure to follow that process could easily be contested in courts. Third, by requiring the agreement of several agencies the amendment process reduces the extent of regulatory discretion. Fourth, by delegating major regulatory powers to the agency head rather than retaining these powers at the level of the Ministry, the latter's powers are limited. Finally, the initial use of price cap as the price-setting method limits both the current price-setting powers of the regulator, and because price-caps are part of the license, it limits the regulator's ability to drastically change the price-setting process.

43. In this section we explore the nature of the regulatory process and derive implications for the stability of the regulatory process. The regulatory process can be modeled as a game among four players: the Director General of the Office of Telecommunications (OfTel), the Secretary of State (SOS) of the Department of Trade and Industry (DTI), British Telecom (BT) and the Monopolies and Mergers Commission (MMC). Figure 1 describes the main features of the requirements for a major regulatory change that involves a license amendment, such as changing the nature of the price cap system, requiring particular interconnections, and restricting BT from undertaking certain activities. We start, first, with a description of the major players and the interrelations among them.

c.i. The Players

c.i.1. The Director General and the Secretary of State

44. BT, as all UK utilities, is regulated by a Director General (the Director General of Telecommunications -the DGT for short) who heads an agency (the Office of Telecommunications, or OfTel). All DGs, in turn, respond to a particular Secretary of State (the DGT responds to the Secretary of State of the Department of Trade and Industry -the SOS of DTI). The DGs are appointed by the

SOS for a period of up to five years, and cannot be removed except for clear malfeasance or personal-physical incompetence.³⁵ For Oftel, the DGT can "appoint staff as he may see fit", subject, however, to Treasury approval as to number, terms and conditions of contract. Oftel's budget, as that of all other regulatory agencies, comes from the Treasury but is financed by a levy on the licensed telecommunications carriers which cover most of its current expenses and has to be approved by Parliament.³⁶ Ultimately the DGT is accountable to Parliament.

45. At the time of the privatization, the Government had an interest in assuring independence of the telecommunications regulator in order to build a reputation with buyers for future privatizations (in particular in gas, water, electricity). For the first eight years (1984-92) Sir Bryan Carsberg was DGT, with a first term of three years. He was formerly the Arthur Andersen Professor of Accounting at the London School of Economics. The choice of an academic for this position seems to have been deliberate in that it reemphasizes independence of the holder of the position.³⁷

46. In the case of Telecommunications, the SOS of DTI³⁸ is in charge of signing the original license, and any subsequent modification. The DTI, however, cannot sign license modifications without the DG's recommendation.³⁹ Thus, the DGT has substantial autonomy, even in a Parliamentary system. Conflicts between the DGT and the SOS may imply subsequent reductions in the agency's budget, non-reappointment as well as future political problems, and may even lead to a resignation. In

³⁵ Acting DGs, however, can be removed at the will of the relevant SOS. See, for example, the Telecommunications Act 1984, Part 1, 11(2).

³⁶ During fiscal year 1991, Oftel and Offer (Office of Electricity Regulation) have covered all their expenses through their direct revenues. See Oftel, Annual Report 1991.

³⁷ For example, the position of the Director General for Electricity is also held by a Professor, Stephen Littlechild.

³⁸ Henceforth we will use the term SOS or DTI interchangeably.

³⁹ The SOS has a more important role at the privatization stage as the regulatory agencies are not functioning prior to the privatization. Thus, the Director General had no formal role in the drafting of the initial license(s) at privatization time. Licenses given to new companies after the initial privatization, though, would follow the procedure, whereby a DG recommendation is required for the SOS to grant the license.

any case, though, the DGT may not be easily fired.

47. While the DGT has substantial discretion, the enabling law enunciates the objectives that the DGT must follow. For example, the Telecommunications Act of 1984 (as well as all other enabling Acts)⁴⁰ stipulates primary and secondary duties to both Oftel's DGT and the SOS. Primary duties are⁴¹

"(a) to secure that there are provided throughout the United Kingdom, ... telecommunication services as satisfy all reasonable demand....; and
b) ... to secure that any person ... is able to finance the provision of those services."

Secondary duties are

"a) to promote the interests of consumers, purchasers and other users ...(including, in particular, those who are disabled or of pensionable age), in respect of the prices charged for, and the quality and variety of, telecommunications services ...,
b) to maintain and promote effective competition ... in ... telecommunications;
c) to promote efficiency and economy ...;
d) to promote research ... and development...;
e) to encourage major users of telecommunication services whose places of business are outside the UK to establish places of business in the UK;
f) to promote the provision of international transit services...;
g) to enable persons providing telecommunications services in the UK to compete effectively...;
h) to enable persons producing telecommunication apparatus in the UK to compete effectively in the supply of such apparatus..."⁴²

While such set of objectives may be mutually contradictory, they open the DGT to potential litigation because of failure to follow the Act. While so far DGs have not faced litigation on this particular point, it remains a potential constraint on the DG's discretion, particularly if the Government does not support such particular action.⁴³ Finally, the discretion of the DGT is constrained by the license amendment process.

⁴⁰ See Centre for the Study of Regulated Industries (nd) for a description of the nature of the regulatory framework in the UK.

⁴¹ See Telecommunications Act 1984, Part I, 13.(1),(2).

⁴² The Telecommunications Act 1984 also exempts the SOS from the duties detailed above in activities related to national security issues or in relations with other governments.

⁴³ Would the government support the DG, it could amend the Act to make it plain that the current actions of the DG are compatible with the meaning of the Act.

c.i.2. The Monopolies and Mergers Commission

48. The MMC is a consultative body created in 1948 with a strong tradition of independence.⁴⁴ It makes determinations on mergers, consumer protection, and regulatory issues. Its decisions, however, do not bind, as the DG or the SOS may not follow up on their determinations. On the other hand, for several issues, like blocking mergers or amending licenses without companies' approval, the agreement of the MMC is a prerequisite. Thus, the role of the MMC has always been to provide its blessing for, or to veto, a certain policy recommendation by a DG or SOS. The MMC has a full time Chairman and Secretary, and is composed of a large number of members. In 1992 it was composed of 34 members. The MMC members are appointed by the SOS and their terms last up to four years. They cannot be removed, but may not be reappointed. Even though the MMC is clearly a partisan agency, there is an implicit agreement on how it should be composed. Thus today, there are still several Trade Union and Labour party members. For each Telecommunications license amendment reference, the Chairman, with participation of the SOS of Trade and Industry,⁴⁵ selects a panel of members to hear it and make decisions after a public hearing. The panels usually consist of the Commission telecommunications experts.

c.ii. The License Amendment Process

49. Changing the license is the crucial regulatory change, as such amendment is regularly required for the regulation of BT's (and most other regulated utilities') prices.⁴⁶ In general, to amend a license the agreement of the regulated firm and the DG is required. If no agreement is reached, then the DG

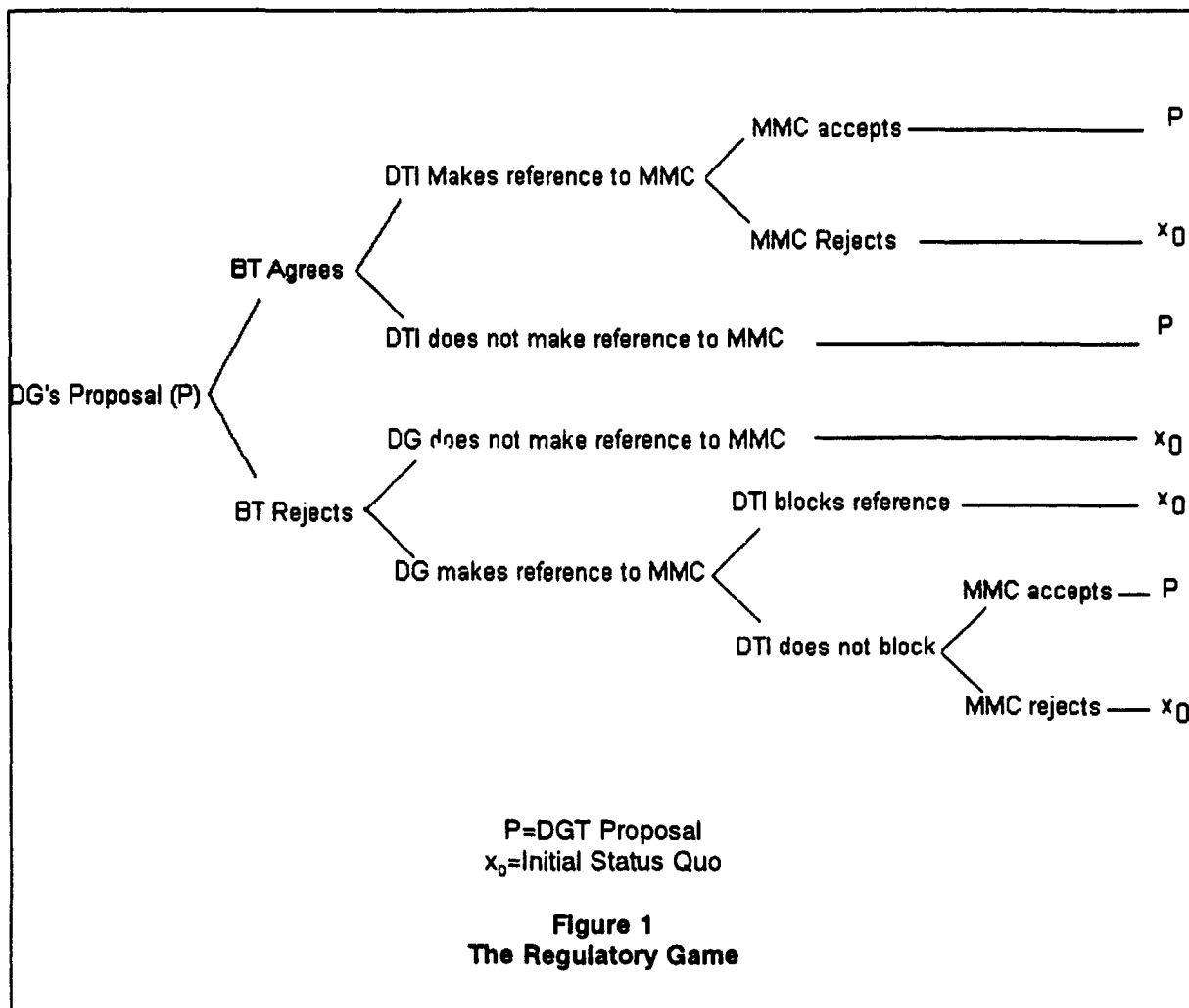
⁴⁴ In several interviews with consultants, BT and Mercury executives and regulators, a reference to the MMC was characterized as a "crab-shoot," in the sense that its answers may not be very predictable, or follow the party line.

⁴⁵ See the Telecommunications Act of 1984, Part II, ¶13.(10).

⁴⁶ Telecommunications differ from electricity in that the price cap formula is valid only for four (now five) years in the former while it is open ended for the latter. Thus, Ofel has to rewrite BT's license every four (or five) years, while, in principle, Ofel would not have to amend the licenses of the electricity distribution companies. The fact that Ofel has to write a new license every four or five years provides a strong bargaining chip to BT, as Ofel has to get the amendment process completed before the expiration of the price cap. Otherwise, following that date, BT could, in principle, set its prices in an unrestricted fashion.

may proceed with what is called a "reference" to the Monopolies and Mergers Commission (MMC).⁴⁷

See Figure 1.



50. Consider first the upper branch in Figure 1 that consists of the DGT making a proposal for a license amendment which the company agrees to. Such agreement, though, is not enough to change the license, as the DTI has to sign the new license. The DTI has 14 days to block the agreement by

⁴⁷ Before 1984 the MMC was engaged in telecommunications issues through regular reviews of each of the nationalized industries and thus also of the Post Office. The 1984 Telecommunications Act explicitly made the MMC part of the regulatory process for changes in BT's license. In addition, the MMC can become active in telecommunications under a general monopoly reference (under the 1973 Fair Trading Act), e.g., in merger cases. In its former role the MMC is advisory to the DGT.

making a reference to the MMC. Such a reference would request from the MMC to answer whether the agreement is "against the public interest." The veto power is vested with the DTI in order to reduce incentives for collusion between the DGT and BT. If the MMC concurs that such agreement is "against the public interest," then the DTI may not sign the agreement, and the initial status quo remains in place, until a new proposal is brought forward by the DGT. If, on the other hand, the MMC finds that the agreement is indeed in the public interest, then the SOS has no further recourse but to sign the license agreement.

51. Consider, now a proposal by the DGT which is not agreed by the company. This is represented in the lower branch of Figure 1. To change the license without the agreement of the Company, the DGT needs the MMC to determine that (a) the current situation -say, the current X factor in the price cap regime- is against the public interest, and (b) that the MMC agrees that the DGT's recommendation is for the public interest.⁴⁸ In other words, the MMC may veto the DGT's recommendation, but cannot impose a particular recommendation on the DGT.⁴⁹ Would the DGT's recommendation get the approval of the MMC, then the change in the license as desired by the DGT can be sent to the SOS for the formal signature. If the MMC does not agree with the DGT, then the DGT will have to bring forward another proposal for the company's consideration, and until then the status quo remains in place.

52. While the SOS has to sign a license agreement that has been sanctioned by the MMC, the

⁴⁸ See, for example, Telecommunications Act 1984, Part II, ¶13-15.

⁴⁹ Oftel lost its reference to the MMC in the *Chatlines* case. The *Chatlines* case relates to what in the US are called 900 numbers and message services over BT's network. These services were charged at premium rates, well above ordinary inland calls. The problem seems to have been the inadequate control of customers over the types of services which can be accessed and over the charges incurred. The commission stated that "the provision of the services significantly impairs the value of and quality of the telephone service, and operates against the public interest." The commission, however, acknowledged the value of such services, and recommended that "BT's license be modified to require the provision of chatline services in accordance with a code of practice to be negotiated between the DGT, BT and the chatline providers." There were more than 20 companies providing Chatline services. Thus, the MMC did not agree to the unilateral modification of BT's license as recommended by the DGT, even though the MMC agreed that the current situation was against the public interest and that a very different proposal was in the public interest. (See, MMC, "Chatline and Message Services," January 1989, London: HMSO.)

SOS may block the reference to the MMC. The DTI may instruct the MMC not to consider such a reference, thus blocking the DGT from getting its proposal enacted against the will of the company. In that case, then, the status quo remains, and the DGT may have to offer BT a new proposal for its consideration. The Telecommunications Act of 1984 specifies, though, that the SOS may make such an instruction only when such reference will be against the national defense.⁵⁰ Such blocking of a reference, then, can only be made under extreme circumstances. A false claim of national security considerations to block a reference, though, could still be done, but at the cost of some reputation loss.⁵¹ To understand the reason for this rule, the nature of references to the MMC has to be clarified.

53. DGs can make narrow or wide references to the MMC. Narrow references deal exclusively with the issue of contention between the company and the DG. Wide references deal with all aspects of the sector, including the organization of the company, the nature of competition, etc. Such reference may be considered by the DTI to present serious risks, and it may find it proper to block the reference. Similarly, even a narrow reference that implies a too large change in the regulatory system may be constituted to be against "national security" if, for example, it could bankrupt the company. In any event, moving a reference to the MMC under the widest terms would naturally require the agreement of the DTI, although relatively minor references would not require such an agreement.

54. For the companies, then, a reference to the MMC may involve substantial risks. It will also involve substantial costs. MMC references take approximately six months, and the need for senior management attention is quite large. Furthermore, during that period the integrity of the company may be at stake, raising its cost of capital.⁵² On the other hand, references to the MMC may also be costly

⁵⁰ See Telecommunications Act 1984, Part II, 113,(5).

⁵¹ This reputation loss could reflect the fact that the SOS may be seen by many to have stretched its jurisdiction, creating uncertainty, then, on its performance on other policy issues.

⁵² See, Chairman's Speech, at British Telecom's Annual Shareholders' Meeting, 1992, cited in Veljanovski (1992, p.20).

for the agency. Losing a MMC reference, as happened to Oftel with the *Chatlines* case, implies losing some amount of reputation.⁵³ Thus, both agencies and regulated companies, give substantial thought to what the MMC would do. It is then not so surprising that the MMC has received so few references for regulatory issues during the last decade.⁵⁴

55. The 1984 Telecommunications Act provides no mechanism for the SOS to amend BT's license against the wishes of the DGT. In principle, however, the SOS could initiate legislation in Parliament with the purpose of revoking BT's license. Such an action, which would deviate drastically from perceived norms of behavior, not only could be challenged in court, but would create substantial uncertainty concerning the role of contract law in the UK. As a consequence, such action could be conceivable only under extreme circumstances.⁵⁵ Relative to the DGT, the DTI's powers are also limited by its lack of a specialized bureaucracy which Oftel has developed.^{56,57}

⁵³ It is quite difficult for those used to the US adversarial system of regulation to get used to terms like "losing face," "one does not do those things," which are quite common among UK public servants, regulators and executives. The UK administrative system is more based on personal relations, informal contacts, and implicit agreements than the US system which prohibits - through the APA's and states' rules about *ex-parte* communication - substantive but informal contacts among commissioners, between commissioners and staff members, and between commissioners and representatives of regulated companies.

⁵⁴ The only industry in which the MMC is quite active is in the regulation of airports. Since the Civil Aviation Authority is the regulator of airports, but it is also a provider of services (e.g. air traffic control), the enabling legislation (Airports Act 1986) requires that amendments to airports' licenses be approved by the MMC. Furthermore, the MMC also reviews airport operators' behavior generally in designated airports and may make recommendations on license modifications. See Centre for the Study of Regulated Industries, (nd). In fact, apart from the CAA related work, and the *Chatlines* case, the MMC has yet to receive a regulatory reference. The MMC, though, also reviews mergers in regulated industries (since the privatization of water utilities, there have been several water merger cases and BT's merger with Mitel). See MMC reports and Veljanovski (1992).

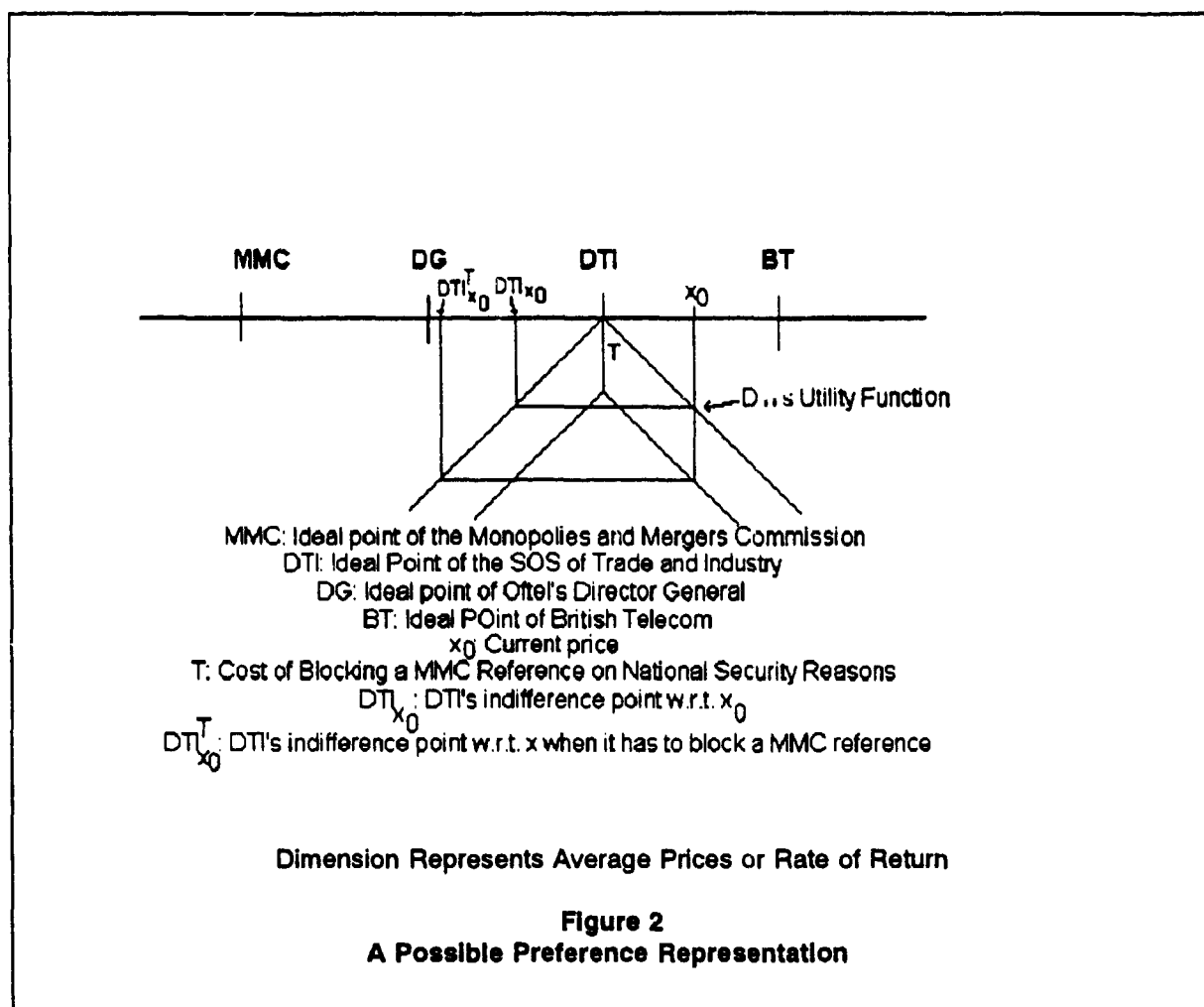
⁵⁵ Such circumstances could fit, for example, an attempt to renationalize all utilities without proper compensation, by first drastically limiting their profitability. Here, though, the fact that ownership of the utilities is so widespread may restrain such a policy. Compensation, on the other hand, may be too expensive to be undertaken. Thus, we would not consider such move as in the realm of possibilities, although the 1984 Labour Party's platform considered the renationalization of all utilities privatized by the Conservative governments, but "without speculative gains."

⁵⁶ Oftel is an administration with a staff of currently about 140. While small compared to the U.S. Federal Communications Commission staff of 1,747 in 1991 (according to Warren and Lis 1992), this is still not tiny. Of the 140 staff members, price-cap regulation (without monitoring quality performance) on average only occupies about 1-2 persons on a full-time equivalent basis (Cave, 1991, p.40/41).

⁵⁷ The DTI is in charge of international treaties affecting telecommunications (e.g., Intelsat) and in dealings with foreign governments (except for issues of accounting and settlement rates which are within the DGT's responsibility). In addition to its domestic regulation the UK telecommunications industry is subject to European Community rules and directives, something that has strong influence on the ability to exclude foreign competition and on standard setting for new services (e.g., PCN).

56. The above discussion of process and of the nature of delegation suggests that the current discretionary powers of the DGT are subject to substantial constraints.⁵⁶ To understand how the current system works, though, a model of the UK regulatory process is required. We developed such model elsewhere (see Spiller and Vogelsang 1992). Here, though, we provide the highlights of that model, and some of its implications for the stability of the system to political changes.

⁵⁶ Another constraint facing the DGT is the availability of information. While the DGT is entitled to all the information needed for determining BT's costs and for determining BT's compliance with the RPI-X formula, Ofel does not automatically receive the information from BT. Furthermore, Ofel cannot publish this information without BT's consent. The DGT has very limited powers to penalize an operator for breach of license. There is no provision in the Telecommunications Act of 1984 for damage payments in case of breach. Since revoking the license is unrealistic, the DGT's powers appear to be restricted to cease-and-desist orders and to embarrassing BT in public for noncompliance.



c.iii. Implications for Performance of the License Amendment Process

57. The above discussion of the process to amend the license suggests that, while the DGT has the power to propose license amendments at any time, he is restrained on what it can offer by several factors. First, the initial status quo, x_0 in Figure 1, determines how much each of the players in the regulatory game wants to change the regulatory policy, and in which direction such change should go. The initial status quo can be represented as the initial price level, or the initial rate of return of the company. Thus, unless the company's prices are at the monopoly level, the company would like to have its average prices, and its rate of return, increased. Now, for the regulator to get the company to agree to a lower price level or rate of return, it has to be the case that a reference to the MMC would not be blocked by the DTI on grounds of national security and, if the reference is made, that the MMC

would support it. Thus, given the initial status quo, any feasible proposal by the DGT that makes BT worse off has to be preferred by both the MMC and the DTI.

58. Consider for the moment, as Figure 2 does, that the preferences of BT, the DTI, the DGT and the MMC can be represented in a single dimension. Call this dimension BT's average price level or its rate of return. Figure 2 presents our view of the preferences of each of the four players upon privatization. The situation upon privatization can be depicted as follows: the price level, x_0 , was initially left untouched at a relatively high level (see Figures A1 and A2), as the result of a bargain between BT and the DTI. Thus, x_0 should be in between the ideal points of the DTI and BT.⁵⁹ The MMC under the conservative governments of the 1980s and 1990s has been quite free-market oriented. Thus, its most desired rate of return for BT would be close to competitive levels. The DGT, on the other hand, while showing to be quite a free market person as well,⁶⁰ had BT's financial health as one of his own legal concerns. Thus, it is possible that the DGT preferred to see a relatively higher rate of return for BT than the MMC. Figure 2 depicts the scenario described in this paragraph.

59. Figure 2 suggests, then, that the initial price level or rate of return was not an equilibrium. To see this, observe that the DTI, the DGT and the MMC all would prefer a lower average price. Thus, the DGT should be able to find a lower price that the DTI and the MMC would support. Facing such case, BT would also go along with the DGT. How low such price and rate of return would be, though, depends on the exact parameters of the model. First, the DGT would not make a proposal that will

⁵⁹ See Spiller and Vogelsang (1992) for the complete view of the model. Here it suffices to say that each player is assumed to have a most preferred policy point, and that its utility level declines as the policy outcomes deviate from its ideal policy point (ideal point, for short).

⁶⁰ Several regulatory moves by Sir Bryan provided him high marks as a champion of competition. For example, he was instrumental in shaping the initially favorable interconnection agreement for Mercury with BT. He also brought action before the MMC against BT in its merger with MITEL. Vickers and Yarrow (1988, p.236) say: "Ofitel's powers are limited by earlier Government decisions ..., but Ofitel has chosen to pursue the pro-competitive objective with considerable vigor." The preferences of the DGT obviously reside in his personality and background, and those were certainly important in his selection. But personality and preferences cannot explain all the DGT's choices, as these are constrained by both his rights and duties stipulated in the Telecommunications Act of 1984, as well as the preferences and feasible actions of the other interested parties.

bring prices below its own ideal point represented by DG in Figure 2. Thus, at most, we know that the DGT's proposal would bring prices down to DG. Whether a proposal that brings prices directly to DG is feasible depends on how much it would cost the DTI to block a reference to the MMC. If it would cost the DTI a lot to claim national security considerations in blocking a reference, then the DGT may actually not feel threatened by such potential block, and thus, may be able to propose to BT its own ideal average price level. On the other hand, if the loss of reputation to the DTI from blocking a reference is not too high, the DGT would have to take the DTI's preferences into account.

60. Figure 2 presents two cases. One, when it costs nothing to the DTI to block a reference to the MMC. Thus, the DTI will be indifferent between the initial status quo x_0 and a point to the left of its ideal point, call that policy point DTI_{x_0} . If that is the case, then, the DGT can only propose policies that lower prices to DTI_{x_0} . The Figure also presents a case where it costs T to block a reference to the MMC. In this case, the DTI is indifferent between x_0 and a policy point to the left of its ideal point, call that point $DTI_{x_0}^T$. Now, if $DTI_{x_0}^T$ is to the right of DG, then the DGT will not be able to implement its desired policy, while if it is to the left, then the DTI cannot block any policy desired by the DGT. Whatever the case may be, though, if the initial configuration is as depicted in Figure 2, then, the model suggests that the initial price level would be adjusted downward, towards the DGT's most desired price level. How fast prices drop, though, would depend on the exact preference configuration.

61. Given the current preference configuration, we can confidently predict that equilibrium average prices will be somewhere in between the ideal points of the DGT and BT. If, for some reason, prices fall below those most preferred by the DGT, the DGT would then propose a license amendment to increase prices closer to its own ideal point. The DTI will support the agreement between BT and the DGT. The MMC, which could have blocked it if prices were strictly in between the ideal points of the MMC and DGT, will then not be asked to participate in the amendment process.

62. Consider, now an electoral outcome that changes the government towards a political party less supportive of private telecommunications development. Such electoral change would translate, first and foremost, in the DTI moving to the left of the MMC. Since, the MMC and the DGT were initially appointed by the previous government, their preferences can be assumed to remain stable through the first years of the new government. Assume, furthermore, that the initial price was higher than the most preferred by the DGT. The DTI would always support a reference to the MMC. As a consequence, the DGT could bring prices closer to its own ideal point.

63. Assume, on the other hand, that prices fell to levels below those most desired by the DGT, and are in between the ideal points of the MMC and the DGT. The DGT and BT would agree on a license amendment that would bring prices up. This amendment, though, will be blocked by the DTI, by making a reference to the MMC, who will declare such an agreement against the public interest. Thus, even though a new government may not appoint a new DGT or MMC, if, because of a recession or some other unexpected event, prices fall too much, the DGT may not be able to bring profitability levels up again as in the case when the DTI's preferences were closer to BT's.

64. The game, however, is not over, as BT's price cap has a sunset provision. Thus, if a new price cap is not agreed upon prior to its expiration as specified in the license, then BT may price at will. Such action will bring prices up and will then force the DGT to propose a license amendment to bring prices down to its most desired level. Such an action would be supported by both the DTI and the MMC.

65. To bring prices below those desired by the DGT and the MMC, the government would have to replace the DGT and change the composition of the MMC. Since both the DGT and the commissioners cannot be replaced at will, but are appointed for terms, it is quite possible that the new government would not be able to pack the MMC and to change the DGT before new elections take place, at which

time the government itself may be out of office. Overtime, though, if a strong statist oriented government remains in place, both the DGT and the MMC could be replaced with properly selected individuals, reducing the commitment towards profitable private undertakings.

66. To summarize, the regulatory system based on a licensing scheme plays a role in providing commitment. Licensing provides some amount of safety for two reasons: First, since major regulatory issues were initially specified in the license, if the government wants to undertake a major regulatory change it either has to get the approval of the company or go through a very precise and well stipulated set of steps, requiring approval of several players. While it is feasible that a government could strategically change the rules under which license amendments are undertaken,⁶¹ such an action would deviate from the traditional norms of government.⁶² Observe, however, that for a license arrangement to serve as an institutional safeguard, it has to substantially limit regulatory discretion. As we discuss below, this is precisely how BT's license was designed. A license that does not restrain regulatory discretion would not serve as a safeguard.

67. A second reason why the current regulatory process limits discretion is based on the fact that the equilibrium to the regulatory game specified on the license amendment process, may not change drastically following large, but short term, changes in government. Its ability to prevent changes following long term and drastic government ideology changes, however, is very limited. Thus, the license amendment process, while providing enough flexibility to adjust regulatory policy to unforeseen technological and economic changes, may open up the possibility for regulatory opportunism. To restrain it, other safeguards had to be developed.

⁶¹ For example, Parliament could pass a law specifying that rather than the MMC, the SOS or one of DTI's employees, should review license amendments.

⁶² Historically the responsibility over granting licenses to electricity companies moved from the Board of Trade, to the Electricity Commissioners, to the Secretary of Transport. We did not find any evidence in the literature that such changes were undertaken strategically so as to undermine the companies' performance. On the other hand, before the nationalization of the electricity companies, the licenses did not stipulate an amendment procedure. The Board of Trade and its successors were in charge of licensing and of setting prices. See Spiller and Vogelsang (1993).

68. Whether the flexibility provided by the license amendment provisions of the 1984 Telecommunications Act could eventually become the key to opportunistic behavior by the regulators, though, depends to some extent on the courts, on the power of the ownership structure of BT as a safeguarding institution, and on the public and political perception about the role of the government in the productive sector of the economy. Concerning the latter, it is interesting to see that public opinion polls concerning privatization have tracked a drastic shift from pro- to against nationalization in 1975. For example, while in the Summer of 1973 30% of those interviewed by MORI favored more nationalization, 27% favored de-nationalization. By the Fall of 1976 37% favored de-nationalization while only 20% favored more nationalizations. At the time of BT's privatization, MORI's polls showed 40% in favor of de-nationalization against 20% in favor of more nationalization.⁶³ See Figure A4. Also, the fact that large numbers of middle class citizens, as well as institutions like pension plans, own shares in BT, and in all other privatized utilities, suggests that a strong constituency towards "proper" treatment of BT, and of the privatized utilities, should have developed.⁶⁴

d. The Role of Price Cap as a Commitment Device

69. As mentioned above, the main vehicle for regulating BT is its license, which any public telecommunications operator must now have. The license combines a description of the licensee's rights and obligations with references to the 1984 Telecommunications Act on which the regulation is based. BT holds a 25-year renewable license. In terms of structure, BT is allowed to engage in VANS, cellular telephony, apparatus and equipment supply, as long as it keeps separate accounts that show it does not cross-subsidize these activities from its telephone network service business. BT, however, faces some restrictions, for example, in new mobile technologies (PCN) and in combining its own local cable TV operation with its telephone network. In terms of conduct, the main competitive provisions in

⁶³ MORI stands for Market and Opinion Research International. See Newman (1986, p.4).

⁶⁴ During the summer of 1992 the British press was full of reports about the "obscene" profitability of the privatized utilities. The regulators were not immune to such popular pressure. The Directors General of Telecommunications, Electricity, Water and Gas all made statements about the need to bring the companies' profitability towards normal returns.

BT's license include universal service, nondiscrimination, a prohibition to cross-subsidize specific activities, such as its apparatus (CPE) business, a stipulation to purchase equipment by competitive tender, and to interconnect with other PTOs.

70. The extent by which the regulator can intervene in the price setting and investment decisions of the company is what determines the regulator's extent of discretion. BT's initial license, as well as Mercury's for that matter, was very specific on who sets prices. Prices were to be set by BT subject to OfTel's annual supervision so that they follow a particular price-cap rule. The price cap rule was very simple. A basket of regulated prices was allowed to increase by RPI-X, with X set initially, by the SOS of DTI, to 3, where RPI stands for the Retail Price Index.⁶⁵ This pricing scheme was initially valid for five years unless the license was amended previously. The basket of regulated services included local and long distance rates, and covered slightly more than 50% of BT's total sales. It excluded among the major outputs only international telephone services, private circuits and apparatus. BT's connection charges were not part of the regulated basket either. Within the RPI-X constraint BT can change its prices with 28 days notice. Since RPI-X regulation is part of BT's license, any renewal or change of price regulation requires a change in BT's license. In the past there have been one 5-year and one 4-

⁶⁵ The idea of a price cap system for BT was developed by Professor Stephen Littlechild who in 1982 was commissioned by the Department of Industry to report on two suggestions for regulating BT's prices, one being U.S. style rate-of-return regulation (RoR) and the other an incentive scheme designed by Professor Alan Walters, then the economic advisor to Prime Minister Margaret Thatcher. Walters' "output related profits levy" (ORPL) would simply be a tax that is inversely related to BT's output growth, and there would have been no further price regulation of BT's outputs. While novel, the ORPL scheme appeared to have some drawbacks both in theory and in its practical application. A theoretical analysis of the ORPL is found in the Appendix to Littlechild's 1983 report. See Littlechild (1983) and Glaister (1987). Littlechild rejected both ORPL and RoR, the latter on theoretical grounds and on its U.S. track record. Instead, in his 1983 report, he suggested what he called a "local tariff reduction scheme". Under this scheme only part of BT's goods and services would be subject to price regulation. The scheme defined a basket of regulated services whose prices on average would be allowed to grow at the rate of inflation minus X%. Inflation was expressed by the Retail Price Index (RPI), thus the name "RPI-X". Within the regulated basket BT would be allowed to rebalance its prices, as long as the RPI-X constraint would hold for the average, expressed as a chained Laspeyres price index. The regulatory scheme would be fixed for five years and then BT would either be deregulated or the scheme would be revisited by the regulator. In addition to his regulatory scheme Littlechild proposed a number of steps that would have opened up the telecommunications market to more competition. While the UK Government did not follow Littlechild's extensive suggestions on competition policy, Littlechild's regulatory suggestion, with some modifications, became part of BT's license, including Littlechild's recommendation of X=3. The modifications concerned in particular the scope of regulated basket which was extended to include BT's long-distance calling services. Littlechild suggested an RPI-3 for a local telephone service basket only. Such scheme would have been much tougher on BT than the RPI-3 that was actually implemented on an enlarged basket. Under the Laspeyres price index approach used by Littlechild consumers in aggregate would at the same time be better off by more than 3% per year. See Bradley and Price (1988) and Vogelsang (1989).

year period for RPI-X, and an agreement on a further 4-year period, starting in 1993, has been reached by the DGT and BT in 1992.

71. The inclusion of long-distance services in the basket actually increased BT's ability to rebalance its prices because now reductions in long-distance rates could be offset against increases in other rates. Paradoxically, regulating additional services under price caps gave BT more rather than less freedom. Since BT expected competition from Mercury mainly in long-distance services, this inclusion appreciably increased BT's effective ability to compete. At the same time rebalancing allowed BT to move toward subsidy-free and allocatively more efficient prices. In order to constrain the amount of rebalancing, however, BT in 1984 agreed to limit increases in exchange line rentals to RPI+2.⁶⁸

72. Thus, BT's initial license provided the regulator with very limited discretion in relation to price setting. Any attempt to force BT to lower prices can only be done through fostering competition or through changing BT's license which, as we discussed above, requires to pass several institutional hurdles. DGT's ability to foster competition, furthermore, was initially limited by the 1983 Duopoly Policy which restricted fixed link competition to Mercury and BT until 1991. After that period, a review of the Duopoly Policy was to be undertaken by the DTI, with participation of the DGT. The license provided the DGT, though, with slightly more flexibility on quality supervision, but the 1984 Act did not grant the DGT the ability to impose penalties. Thus, the choice of price cap as the regulatory mechanism substantially constrained the ability of the regulator to dictate BT's prices, thus triggering the regulator's attention towards other aspects of telecommunications, like quality and competition.

⁶⁸ Initially, after privatization BT's private circuit rentals remained unregulated. BT used this pricing freedom for steep increases. For a long time private circuit leases had been noncompensatory, because, in the 1970s, private circuits had been kept down in conjunction with general price controls by the then Labour Government. The argument at that time had been that costs for industries that were themselves price-controlled could and should be held down by not increasing prices of publicly provided inputs. After 1983 price increases for private circuits were moving BT towards compensatory rates but their steepness triggered political pressure from consumers on the regulator. In response to these pressures, in 1989, a separate price-cap basket for private circuits was formed with an RPI-0 constraint. Accordingly, private circuit rates on average could only go up with inflation, and rebalancing could only occur within the basket of private circuits.

V. Commitment, Regulation and Performance Since Privatization

a. Major Regulatory Changes Since BT's Privatization

73. We discussed above how BT's initial price level (and consequent rate of return) upon privatization was relatively high, and that it was reasonable to presume that it could not be an equilibrium given the nature of the regulation game. In this section we discuss how the different license amendments that occurred since privatization can be understood as adjusting BT's prices towards a level that would reflect the politics of the day subject to the procedural constraints set up by the regulatory system. The main inference that can be taken from this section is that indeed the regulatory process followed quite closely what could have been expected from the simple model of regulation described above.

74. As discussed above, important regulatory changes have to involve modifications to BT's license. So far, there have been four license modifications, all done through an agreement between the DGT and BT. Two of these license modifications were required because of the sunset provision in BT's license concerning price cap regulation, and they came at their regular times (1989 and 1993). A third license modification was also required because of the expiration of the Duopoly Policy instituted at the end of 1983 (1990/91). While this regulatory change had to deal, in principle, only with the extent of network entry, the regulator used the need to negotiate a new license to require changes in the price cap. The fourth license modification involved restrictions on the sale of *Chatlines*. We will not discuss this issue here. Box 3 provides a summary of the major regulatory changes since BT's privatization.

75. We discuss below each of the three license modifications that involved substantive changes in regulatory policy, in particular, price setting and competition policies. In terms of a large number of indicators between 1984 and 1993 regulation has grown in scope and stringency:

- The adjustment factor 'X' in the price-cap formula has increased in several steps;
- New revenue items have been added to price regulation;

BOX 3**Major Regulatory Changes Since BT's Privatization****First Price Cap Renewal: 1988-1989**

- **Regulatory Issues:**
 - Price restructuring since 1985
 - Quality problems particularly during 1987
 - Large price increases in private circuits
 - BT's high rate of return
 - Interconnection with Mercury
- **Regulatory Outcomes:**
 - Increase from RPI-3 to RPI-4.5
 - Extension of RPI+2
 - Price cap for private circuits (RPI-0)
 - Quality guarantees and Quality monitoring
 - Interconnection agreement by regulatory intervention

The Duopoly Review: 1990/91

- **Regulatory issues:**
 - Duopoly review
 - BT's continuing high rate of return
 - BT's continuing high market share
 - Government sale of BT shares November 1991
- **Regulatory outcomes:**
 - Liberalized entry (except for international)
 - New interconnection agreement for Mercury
 - Inclusion of international calls under price caps
 - Increase from RPI-4.5 to RPI-6.25
 - BT allowed volume discounts
 - Possibility for future access deficit contributions

Second Price Cap Renewal: 1992-

- **Regulatory issues:**
 - BT's continuing high rate of return
 - Mercury's high rate of return
 - Further rate rebalancing by BT
 - Further government sale of BT shares planned
- **Regulatory Outcomes**
 - Increase from RPI-6.25 to RPI-7.5
 - Restrictions on rebalancing
 - BT accounting separation and current cost accounting

- BT's ability to rebalance its rate structure has been severely curtailed;

- Regulation has been extended to BT's quality of service;
- BT's connection charges with its competitors have been subject to a number of regulatory interferences, and
- OFTEL's personnel and budget have been growing steadily.

We argue, however, that these changes occurred in a very consistent manner that could have largely be foreseen shortly after BT's privatization. Rather than interpreting them as an unexpected change in the nature of BT's regulation, we see them as regulatory adaptation towards a new equilibrium more adjusted to the political realities of the UK.

a.i. The First Price Cap Renewal: 1988-1989.

76. Among the major initial endowments of the regulator was the RPI-3 formula for price regulation of about 50% of BT's outputs in value terms. Prices for the other 50% of BT's outputs remained nominally subject to competition only. Privatization started with an immediate price increase for the capped services of 2% in November 1984. This average increase looks minor and represents an average real price decrease for the regulated basket of 3.1% which is slightly larger than the regulatory requirement of RPI-3. The average nominal change, however, was the result of a combination of 7% increases for exchange line rentals, off-peak calls in general and local and short long-distance calls with a decrease of about 12% for peak and standard national long-distance calls. This price restructuring, which could have been expected given the initial extent of cross-subsidization, came as an unwelcome surprise to the British public in that the average telephone customer actually faced average telephone rate increases well above RPI-3.

77. BT's increasing profitability after privatization indicates some ease with which BT was able to cope with RPI-3. It is thus understandable that the DGT, in his December 1985 report on BT's pricing, raised the issue of BT's rate of return.⁶⁷ In particular he said, "I shall consider the need to propose a

⁶⁷ See, OfTel, British Telecom Price Changes, November 1985, statement issued by the DGT, 16 December 1985, p.2.

license amendment if BT's rate of return shows a further significant increase or if rebalancing is carried beyond the point justified on economic grounds." To a large extent, all he did later on is already hinted at in this early document. He furthermore says that he does not yet want to revisit X=3 because it has been "so recently established and approved by Parliament."

78. Differing from the regulation of the water industry, the regulator in telecommunications is not bound by any specific rate-of-return considerations. Sir Bryan Carsberg made it clear in his 1986 report that, under RPI-X, BT may earn more than its cost of capital. The same principle has been upheld in the 1988 and 1992 reviews of the price-cap regime. Nevertheless, over time BT's achieved and prospective rates of return have played an increasing role in the determination of 'X' and the scope of price caps. Also, Sir Bryan maintained in the 1986 report that he felt free to change BT's license at any time (that is, before the sunset provision of the current formula takes its due course) if BT's rate of return becomes excessive.⁶⁸ Being somewhat constrained by RPI-X in his activity as a regulator, Sir Bryan initially concentrated on other issues, in particular BT's competitive moves and quality performance.

79. In 1987 BT experienced some quality problems, which raised the possibility that BT was trying to avoid the stringency of price cap regulation by reducing its quality level. This claim, however, seems wrong given that from the beginning of RPI-X regulation BT did not fully exhaust its legal potential for price increases, and that during 1986/1987 it experienced various labor disputes and strikes. Nevertheless, BT's quality performance gave rise to enough bad publicity that, perhaps so as to regain goodwill, BT agreed to a price moratorium from 1987 to 1989. It also gave Sir Bryan an opportunity to prove his regulatory and negotiating skills in that he made BT agree to contractual guarantees on the speed of fault repairs. In case of delays BT agreed to pay penalties to the affected customers. In addition, BT was made to resume detailed reporting on its quality of service, and Oftel initiated its own

⁶⁸ See, Oftel, Review of British Telecom's Tariff Changes, November 1986, a report issued by the DGT, November 1986.

quality observation and reporting.

80. Since the RPI-X provision in BT's license was to expire in 1989, Oftel began its price regulation review in January 1988 with the publication of a consultative document, inviting comments on all aspects of the future regulatory regime. There was an overwhelming support for an extension of the general RPI-X regime with some variation on issues such as the basis for setting 'X'.⁶⁹ At the same time the DGT started discussions with BT on the calculation of BT's rate of return, its productivity performance, its future investment and employment plans. In the process Oftel developed a quantitative model of BT and, in particular, of a hypothetical "regulated company" within BT (Cave, 1991, p.28). With this model Oftel simulated the effects of regulatory changes under different scenarios. The assumptions for the model and for the different scenarios were clarified with BT. After having decided on a basic set of assumptions and finding out their impact on BT's profits, capital employed and other variables, the DGT proposed an 'X' of 4.5% for essentially the same main basket for the next four years starting in 1989.⁷⁰ BT was allowed to carry forward unused price increase potentials within the 4-year period, but not beyond. The RPI+2 rule on telephone rentals was continued and extended to include business rentals, and exchange line connection charges were subjected to RPI+2 outside the basket. Finally, BT committed itself to the introduction of low-user discounts.⁷¹ The tightening of 'X' from 3% to 4.5% came as no surprise given that BT's profitability had substantially improved since privatization (see Figure A5) and that the DGT had decided against a one-time adjustment of prices at the beginning of the new price-cap period.⁷² On the other hand, in real terms BT's price moratorium from 1987 to 1989 came close to such a one-time adjustment. By not increasing

⁶⁹ See, Oftel Working Paper No. 3, "Responses to OFTEL's Consultative Document on the Future Regulation of British Telecom's Prices," September 1988.

⁷⁰ The basket was only slightly extended as operator assisted UK calls were included in the basket.

⁷¹ For all these changes see "The Control of British Telecom's Prices", a statement issued by the Director General of Telecommunications, Oftel, July 7, 1988.

⁷² The majority of responses to Oftel's Consultative Document (OFTEL, op.cit., September 1988, p.4) had suggested a continuation of RPI-3.

its regulated prices at all BT realized RPI-4.4 in November 1987 and RPI-5.9 in November 1988.⁷³ In his first four years through the first price-cap review Sir Bryan established himself as a consumer and competition advocate without hurting BT's profitability.

a.ii. The Duopoly Review: 1990-1991.

81. Over the 7-year duopoly period (1984-1991) BT had become a more formidable competitor mainly in two respects. It had invested heavily in a modernized and expanded network and it had restructured its prices. On account of its pricing policy and its large share in residential customers (who predominantly call off-peak) BT also has much better load characteristics than Mercury. On the other hand BT had not fully realized its rationalization potential and was probably still cross-subsidizing switched customer access and analogue private circuits. At the same time Mercury had made heavy inroads in BT's business with large business customers, in international telecommunication and digital private circuits. By the time of the Duopoly Review Mercury was actually starting to gain new small business and residential customers in appreciable numbers. It was clear for the first time that Mercury was realistically aiming for more than just a market niche. BT had been trying to respond to Mercury's success with big business customers by offering quantity discounts but had been prevented from doing so by Oftel.

82. The duopoly policy had been successful in spurring Mercury's investment and inducing Mercury to go for a large part of the telecommunications market. At the end of the seven years the duopoly review was opened with a Government Green Paper Competition and Choice: Telecommunications Policy for the 1990s (November 1990). The paper suggested a policy of open entry for any qualified new competitors and of heavy restrictions on competitive moves by BT and some minor restrictions on Mercury. After extensive responses by BT, Mercury and others to the Green Paper the Government published a March 1991 White Paper (under the same title as the Green Paper), and ultimately, on

⁷³ See Meek (1988), cited in Johnson (1989).

September 23, 1991, BT's license was amended by the DGT.

83. The main outcome in terms of duopoly policy was further liberalization of the UK telecommunications market. The Government made clear that it would encourage new operators' licenses for fixed line services, provided they involve no extensive digging up of streets and no foreign ownership from countries with closed telecommunications markets. In the international market, however, facilities-based competition will continue to be between BT and Mercury only. Only international resale and private satellite links will be permitted for others. As a result of the Duopoly Review, BT and Mercury were also prevented from transmitting TV signals for another ten years and from operating radio-based networks on their own.

84. The regulatory framework leaves interconnection issues primarily to private negotiations between the parties involved. The DGT only comes in when such negotiations fail. Interconnection with other operators has become a large business for BT with receipts of about £500 million in 1992 (and with Mercury being BT's largest overall customer). Mercury in particular was feeling the effect of squeezing from increases in BT's interconnection rates relative to its retail prices. Consequently, the largest part of BT's license change in September 1991 dealt with interconnection. The DGT (OfTel 1991 Annual Report, p.3) makes it clear that Mercury has been receiving entry assistance in the form of favorable prices of interconnection and that this entry assistance has declined over time. On the other hand, Mercury is suffering from lack of equal access and from the numbering system which does not allow a former BT subscriber to switch to Mercury without changing the telephone number. Consequently, new subscribers of Mercury usually stay with BT for their incoming calls.

85. As Martin Cave (1991, p.8) points out, "because new entrants typically rely on interconnection with the dominant firm, at prices usually determined by the regulator, entry changes the nature of regulation rather than eliminating the need for it." Interconnection charges have become known as

"table rates". After their initial determination by Oftel in 1985 these table rates followed an RPI-3 formula until 1990. By that time BT's output prices in real terms had, for four years in a row, decreased at a much faster rate than RPI-3. Mercury's connection rates were thus being squeezed. At that time, then, a retroactive reduction was enforced for 1990/91 (making 1991 RPI-9), and a new (unpublished) adjustment formula implemented for the future.

86. Somewhat surprisingly, the outcome of the Duopoly Review also included changes in BT's price cap regulation. These changes, however, can be linked to the competitive intent of the duopoly review. Price-cap related changes included a more generous RPI+5 for most business rentals, low-user rebates and the possibility to introduce volume discounts for bulk users, provided BT adheres to RPI-0 for the median residential bill. RPI+5 for multiline business rentals and volume discounts for bulk users would make BT more competitive in the market for big business which was starting to be monopolized by Mercury. Low-user rebates would establish lifeline rates for customers that would not benefit from competitive price restructuring.

87. As the most visible pricing result of the Duopoly Review international services were also included in BT's price cap, with 'X' increased from 4.5% to 6.25% and an immediate reduction in international rates by 10%. One can see the inclusion of international services under regulation as the trade-off for the exclusion of international services from facilities-based entry by firms outside the BT-Mercury duopoly. The new RPI-6.25 was foreshadowed by an advice given by the DGT to the SOS on October 1, 1990, "that he saw the need, exceptionally, for a mid-term addition to price controls, to bring international call charges under control."⁷⁴ International call prices supposedly had been checked by competition. However, BT profit contributions from international calls had increased sharply since 1988, and Mercury had established itself as a viable company. While in October 1990 Sir Bryan had been

⁷⁴ See, The Regulation of BT's Prices, A Consultative Document issued by the Director General of Telecommunications, Oftel, January 1992, p.6; see also "International Services," OFTEL NEWS, Issue No. 16, October 1990, p.1.

seeking a separate basket for international services, he now made them part of the main basket. This clearly had to be in BT's interest because it allowed more flexibility in price rebalancing.

88. As a result of the duopoly review BT's and Mercury's share prices went up relative to the market. Thus, the review helped the Government's intention to sell further BT shares. Mercury announced an increased investment program, thus scaring off potential entrants. Clearly, the duopoly review has opened up the market, but it remains doubtful, whether more than token and niche entry is imminent. As of July 1992, however, 36 license applications were received, 10 licenses were issued, and 24 cable TV systems are now entitled to offer telephony (Cave 1992).

a.iii. The Second (Official) Price Cap Review: 1992

89. In January 1992 the third round of BT's price regulation opened with two consultative documents by the DGT, one on price regulation and the other on BT's cost of capital. There were many responses to these documents, the most important of which appear to be those by BT and Mercury. The general consensus was that price caps should be continued at least for another four to five years and that the basic RPI-X approach should be kept intact. There was some disagreement on the issue of whether a separate constraint on the median residential bill should be formally imposed.⁷⁵ Mercury argued instead for a local service constraint of RPI-2, nested in the general RPI-X, and for a nested constraint on analogue circuits in the private circuit basket.

90. After the round of responses and after having submitted its own views, BT expected to be consulted on the DGT's proposal for the new price caps.⁷⁶ Instead, the DGT informed BT's management of his new price-cap decision only the night before he was going to announce it to a

⁷⁵ Without being part of BT's license an RPI-0 constraint on the median residential bill had been operative since 1989.

⁷⁶ BT's response to the Consultative Document contained the statement "It is,...., expected that further discussions with OfTel will take place covering the detail of BT's proposals and their financial impact." See British Telecommunications plc, Pricing for choice, London, March 20, 1992, p.3.

press conference on June 2, 1992. The DGT made it clear that, in case BT would not agree to the DGT's proposed license amendments, he would make an MMC reference under very wide terms which, according to BT, could have included the possibility of splitting up BT into several companies. It seems that BT was taken by surprise by this move of Sir Bryan Carsberg less than two weeks before leaving OfTel and becoming the DG of Fair Trading. The decision left BT with only two possibilities: either to accept or to refer the decision to the MMC. Two factors appear to have been decisive for Carsberg to go forward with a proposal without consulting BT any further. One was to demonstrate the sovereignty of a regulator who does not negotiate with the regulated firm.⁷⁷ The other was the time factor. Due to the sunset nature of the RPI-X provision in BT's license, the DGT has to get the amendment through before the expiration of the price cap provision of BT's license. Otherwise BT could start setting its prices at will. Carsberg wanted to leave enough time for the option of a reference to the MMC. A case before the MMC takes six or more months, and the DGT wanted to avoid that the MMC decision comes at a time when the pricing clause in BT's current license is about to expire.

91. In terms of contents, the DGT's decision stays within the past RPI-X concept. However, price regulation becomes substantially more stringent on BT and expands in scope. For the general basket 'X' increases to 7.5%. The stringency of this has been additionally increased by not giving credit to BT for additional volume discounts to large users and by including connection charges in the basket. Rebalancing within the general basket is further restricted by an RPI-0 constraint on all other services in the basket. The low-user tariff is extended to 240 units per quarter from 120 units. For the private circuit basket 'X' stays at 0%, and only very restricted rebalancing is allowed. BT was particularly upset

⁷⁷ While Beesley and Littlechild (1989) suggest that agreements are reached in negotiations between the DGT and the licensee, Sir Bryan Carsberg has maintained that there have been no negotiations with BT, only exchanges of information. When in 1988 the second round of price caps was licensed, the DGT only received BT officials for "clarification". In such circumstances the DGT would present his findings to BT. "Unless they reveal new information, they are then free to accept the findings, or face the prospect that the case will be referred to the MMC." Newbery's recording of a meeting with Sir Bryan Carsberg on October 29, 1991. Sir Bryan's shortcut in announcing his decision in June 1992 was no change in procedure. The steps of coming out with a consultative document first and having interested parties respond was followed as before. Sir Bryan's experience with closed door negotiations with BT, however, was not a happy one. During the Duopoly Review, such negotiations led the DGT to make public a set of policy recommendations. Mercury immediately raised accusations about the process, and particularly, about the fact that it had not been consulted on key issues, forcing the DGT to revise the originally proposed license changes.

by the DGT's insistence on new accounting rules for BT, based on current costs and with separations for BT's different activities (as they already exist for the water industry).⁷⁸ Nevertheless, after substantially more than the two weeks of deliberation originally granted by the DGT, BT decided not to contest the DG recommendation for a license amendment.

92. BT's favorable decision has to be seen in the context of the DGT's threat to use the MMC. So far, only two telecommunications cases have come before the MMC: MITEL and Chatlines. There also have been cases in other newly regulated industries (e.g., the case of the price of industrial gas). Furthermore, the MMC is part of the regular procedure for license changes for the Civil Aviation Authority (CAA), which has no other outside regulator. Bringing a case before the MMC is a credible threat by the DGT because information about BT is revealed, precious executive time is taken up by the case, BT's license condition becomes uncertain for a while, BT's share price is affected by the uncertainty of the outcome, and the outcome may be catastrophic (The MMC may find that BT has to be divested into several companies.). The result of the MITEL case obviously scares BT from letting the DGT make a reference to the MMC.⁷⁹

93. Of particular relevance for BT may have been the MMC Report on Gas (Cm 500, 1988, paragraph 8.25, as cited by Cave, 1991, p.16) which expressed the view that British Gas's profits (in 1987/88, a rate of return of 19.1% in historic cost accounts and 6.1% in current cost accounts) were "very substantial for a company in its position". The MMC also found evidence of price discrimination in industrial gas prices, refusal to supply and failure to provide adequate information on charges for common carriage. The MMC recommended nothing drastic but, among others, a prohibition of refusal to supply and an obligation to publish price information. The MMC, however, threatened the possibility

⁷⁸ Personal interviews with BT representatives, London, July 1992.

⁷⁹ In 1985 BT wanted to acquire 51% of MITEL, a Canadian manufacturer of PBX equipment. This was referred to the MMC which, in January 1986, approved the acquisition, subject to conditions along lines suggested by the DGT. These conditions included a prohibition on BT to purchase and deal with apparatus from MITEL at least until 1990. The DTI, in its further approval, weakened this restriction and allowed MITEL to maintain its 1985 market position with BT.

of structural change in the gas industry if the current remedies had failed to improve the situation within the next five years. Because of this and the Mitel case, BT should have been particularly reluctant to take on the MMC, while after the Chatline case the DGT should have been cautioned in the 1992 price cap round. The latter, however, did not happen.

b. A Unified View of the Regulatory Changes After Privatization.

94. The British regulatory policy in telecommunications is constantly moving. Although the RPI-X formula calls for fairly long periods of passive rather than substantive price regulation, the practice has brought interference in pricing formulas, composition of baskets and early preparations for new rounds of RPI-X inside the longer periods. Also, additional issues of quality control and competitive access have kept the regulatory process moving. Nevertheless, Beesley and Laidlaw (1992) view the current situation as quite stable compared to a decade ago. According to these authors, during the last decade "there has been a fundamental change in the regulatory process. In 1981, regulation was exercised by DTI and BT, with few other commercial interests that needed to be taken into account. This very informality allowed Ministers to take radical decisions to change the structure of the sector. Now, a complex regulatory framework of rules and institutions is in place, and a multiplicity of interests has to be balanced. As the Duopoly Review has shown, the regulatory process can best be characterized as successive rounds of negotiation in which the regulatory authorities have sought to accommodate the express demands of incumbents, potential investors and consumers. This inevitably constrains radicalism."

95. While Beesley and Laidlaw see the last few years as creeping realism or a move toward a more stable equilibrium, Veljanovski (1991 and 1992) interprets the regulatory record as a tendency toward creeping over-regulation. Among the evidence for this view he cites BT's Chairman, Iain Valance, saying at BT's 1992 shareholders' Annual Meeting "Regrettably, the trend in regulation in the UK - and not just telecommunications - appears to be towards greater intervention in management,

without a clearly expressed vision or set of long-term objectives." (cited in Veljanovski, 1992, p.20).

96. To what extent is the assessment in the last paragraph borne out by the three episodes just described surrounding regulatory changes after BT's privatization? The main characteristic of episode I is that Sir Bryan Carsberg faced and handled many real problems successfully. He needed BT's cooperation for information and learning. On the other hand, he had to appear confrontational in order to establish a reputation of non-capture and toughness.⁶⁰ At the same time, Sir Bryan could put the blame for rate restructuring on BT.⁶¹ He inherited RPI-3. Since BT had kept the price moratorium from 1987 on and was making good profits, the move to RPI-4.5 was fairly easy on BT, could have been predicted with our model of section II, and was a successful move for Sir Bryan.

97. In episode II there was no real problem except that the Duopoly Review had been preset by the expiration of the seven-year duopoly period. By that time BT continued to show high and increasing profits and competition with Mercury appeared to be less than fierce (Mercury concentrated on large-volume users and BT could not respond.). Carsberg could no longer say that he had inherited RPI-4.5. At the same time there was no explicit need to increase 'X' midterm between price cap reviews. A plausible explanation, though, is that moving X to 6.25 was no tightening after all. BT benefited from the larger basket that now included more competitive services and from the ability to grant volume discounts. At the same time the DGT managed to look tough again and to do something about BT's rising profits which received a lot of publicity in the British press. That BT was not hurt is also in line with the increase in BT's share price after announcement of the results from the Duopoly Review.

98. In episode III again there was no real regulatory problem, except for BT's high profitability. The

⁶⁰ This toughness is not necessarily against BT's shareholders' interest. Forcing BT to become more efficient simultaneously makes BT more competitive.

⁶¹ In 1988 the FCC Chairman Patrick told one of the current authors that from conversations with Sir Bryan he had taken home as a major advantage of price cap regulation that the political blame for changes in rate structures rests with the regulated firm.

elections were over. Carsberg had secured a promotion to DG of Fair Trading. The decisive proposal for the next four years was made by Sir Bryan right before leaving office at Oftel. In our interviews there was absolutely no indication of any difference in opinion between Sir Bryan and his immediate successor, Bill Wigglesworth.

99. Overall, the three episodes show a monotonic trend in the development of BT's price regulation. The process has become more public (no more negotiations behind closed doors); regulation has expanded (from about 55% of BT's revenues in 1985 to about 64%⁶² in 1991); it has moved more towards rate-of-return regulation and has become more stringent. In fact, the move from RPI-3 to RPI-7.5 over a number of iterations is quite remarkable. From an optimistic perspective this shows the success of price-cap regulation in helping improve BT's productivity while maintaining a consistently high rate of return, even in the midst of a UK recession. From 1990 to 1992, BT was able to reduce its work force by 30,000, and in fiscal 1993 alone by another 38,000. That clearly leaves some room for regulatory stringency. From a more pessimistic perspective, however, the possibility of overshooting opens up with a specter of declining profitability like in the mid 70s.

100. The RPI-X in the three episodes definitely looks like a ratchet effect. Carsberg's change in position, though, could be interpreted as learning from the evidence. Alternatively, he could intentionally have held back in earlier rounds thus gaining leeway for later rounds. It also appears that regulatory success is harder to achieve in successive rounds. The success in the previous round becomes the yardstick for the next round. As BT had overcome its quality problems and Mercury had its interconnection agreement, there was fairly little that Carsberg could do to prove his own success. The 'X' became a focal point in the regulatory process. From a public-relations perspective, the regulator may have to increase 'X' in each successive round unless BT's profitability starts falling. Carsberg has declared at least from 1988 onwards that he is against a one-time adjustment of the

⁶² 73.5%, according to Beesley and Laidlaw (1992).

prices in the basket to bring BT's rate of return in line with its cost of capital. He favors to use the 'X' factor for that. Thus, the move from RPI-3 to RPI-4.5 was motivated by the explicit desire to reduce BT's rate of return. Instead, the rate of return stayed high, even after its increase to 6.25. For 1993-97 Carsberg seems to have wanted to get BT's rate of return down to its cost of capital.⁸³ At the same time he cannot afford to endanger BT's ability to serve and invest. Thus, it is quite reasonable to expect that, even without major political changes, a new price cap round may develop before 1997. First, if BT's profitability fails to fall, the DGT will move to amend the license, using a reference to the MMC as the threat. Second, if BT's profitability falls below its cost of capital, all parties (that is, the DGT, BT and the DTI) would support a change in the X factor to bring BT's profitability up.

101. On the other hand, the new 7.5 factor may turn out to be too high only after a change of government takes place. If a new government is against private ownership of utilities, it may want to extend the 7.5 factor further on. It may face, though, the opposition of the MMC, and of the DGT if it wasn't replaced by then. Furthermore, unless a new pricing provision is agreed upon by 1997, BT is free to set prices at will. Thus, if 7.5 turns out to be an excessive factor, the new government may have to agree with BT on a new X factor that the MMC will support. Thus, unless the new government wants to make the unusual move of changing the license amendment process strategically, the licensing arrangement facing BT seems to assure its profitability at least for the next several years.

VI. Main Lessons from the UK Experience.

102. The regulation of UK Telecommunications suggests the importance of both "exogenous" and "endogenous" institutions in providing commitment. On the one hand, given a sovereign parliament with relatively strong parties that alternate in power, commitment cannot be achieved only through regulatory legislation as it has been shown to be relatively easy to change. On the other hand, the UK

⁸³ Even though rate of return is neither in the Act nor in the license, Carsberg initiated well before the 1992 round an enquiry into BT's cost of capital. This was done in Oftel's document BT's Cost of Capital issued in January 1992 jointly with the enquiry on price caps.

is endowed with a large set of formal and informal institutions that may contribute to provide commitment. First and foremost, the existence of an independent judiciary with a strong tradition of upholding both property rights and contracts allows for the use of licensing arrangements as ways of enforcing regulatory bargains. For example, the use of license to specify the price-setting process and the very precise amendment process bring into the regulatory process a clear threat of judicial action if the regulator would deviate from the license or from its amendment process. Also, the existence of informal but well understood limits of ministerial discretion help to make regulatory delegation another source of commitment. Similarly, the prior existence of the MMC simplified regulatory process as a well established commission could be called upon to provide further veto points to regulatory discretion. These are formal and informal institutions exogenous to the privatization process. To a large extent, the success of the UK case is the successful matching of regulatory design to the institutional endowment. Coupled with this match was the design of a diffused ownership structure that helped to develop constituency support for private ownership of telecommunications, a regulatory system (price-cap) that provided for gradual price reductions while at the same time limited regulatory discretion in price setting, and the promotion of limited competition that helped to trigger also gradual price changes, while creating further support for private ownership.

103. The chosen regulatory system has several weaknesses, both in its general design concept, and in its details. A major weakness of the basic design of the regulatory framework is the fact that, in principle, the government may be able to change unilaterally the license amendment process. Since the license amendment process is specified in the 1984 Telecommunications Act, Parliament could change the regulatory process through legislation. It is uncertain, though, to what extent the new process would apply to already granted licenses, as those licenses precisely stipulate on which Act they are based. A license amendment may be required to subject the company to the new procedural requirements. This is not, though, a remote possibility, as conflict between say the MMC and the government could trigger an act of parliament moving the MMC's responsibility for license amendments

to some other, more amenable, agency. On the other hand, legislative changes against the company' will would not be costless, as they would be seen as very clear attempts to change the rules of the game in an opportunistic way.

104. To a large extent, then, the answer to the original puzzle presented in this paper may reside with the nature of the institutional environment in which regulation takes place in the UK. The fact that the regulator cannot unilaterally make drastic regulatory changes, the fact that it may want to have the agreement of the company (enshrined by the license), and that two other bodies may be called to intervene (the MMC and the DTI), all these features reduce regulatory discretion by creating division of powers in a political system characterized by political cohesiveness. The fact that the regulatory system was in place at the time of the privatization of the utilities in the UK, and that such regulatory system substantially limits the discretion of the regulators, coupled with the nature of BT's future ownership structure and the extent of competition, may have reassured private investors about the nature of the ensuing regulatory game, even given the Labour Party's opposition to the privatization. In particular, we saw that preference disagreements between the DTI, the MMC and the DG make regulatory policy more stable. Thus, as in the US, but from a very different perspective, process may provide commitment.

105. Admittedly, the UK regulatory structure rests only on a number of weak pillars of commitment, and it has not yet gone through a change in the ruling party in Government. Thus, we cannot be sure how the regulatory system will react to major disturbances. We do, however, believe that its short history shows it to be well balanced. Neither is BT going to run away with exorbitant returns, nor is it going to be strangled by regulation. The success of the combined policy of privatization, competition and regulation has already dampened the specter of renationalization after a Labour party victory. Thus, the regulatory system may well survive a change in the governing party as well. While a Labour government may tilt the regulatory process in its own direction, it would most certainly remain, for the

near future, within the regulatory boundaries stipulated by the licenses and the process stipulated in the 1984 Telecommunications Act. Given the rapid rate of technological obsolescence, perhaps that is all that is needed to provide commitment in this sector.

106. These results have important implications for regulatory innovation in many of the countries undertaking utilities' privatizations. In particular, in countries where there is no strong tradition of judicial restraint of administrative decisions, attempts to design US style regulatory systems may fail as the Courts may take substantial amount of time in developing the relevant jurisprudence. On the other hand, the UK system provides a way out, as long as the Courts have previously upheld contracts. In that case, licensing arrangements which require the companies to agree to major regulatory changes, or that stipulate very complex forms of changing unilaterally, may restrain regulatory discretion, and thus provide private investors assurances against opportunistic behavior by the regulator.

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UK REAL RESIDENTIAL PRICES

LONG DISTANCE AND LOCAL CALLS

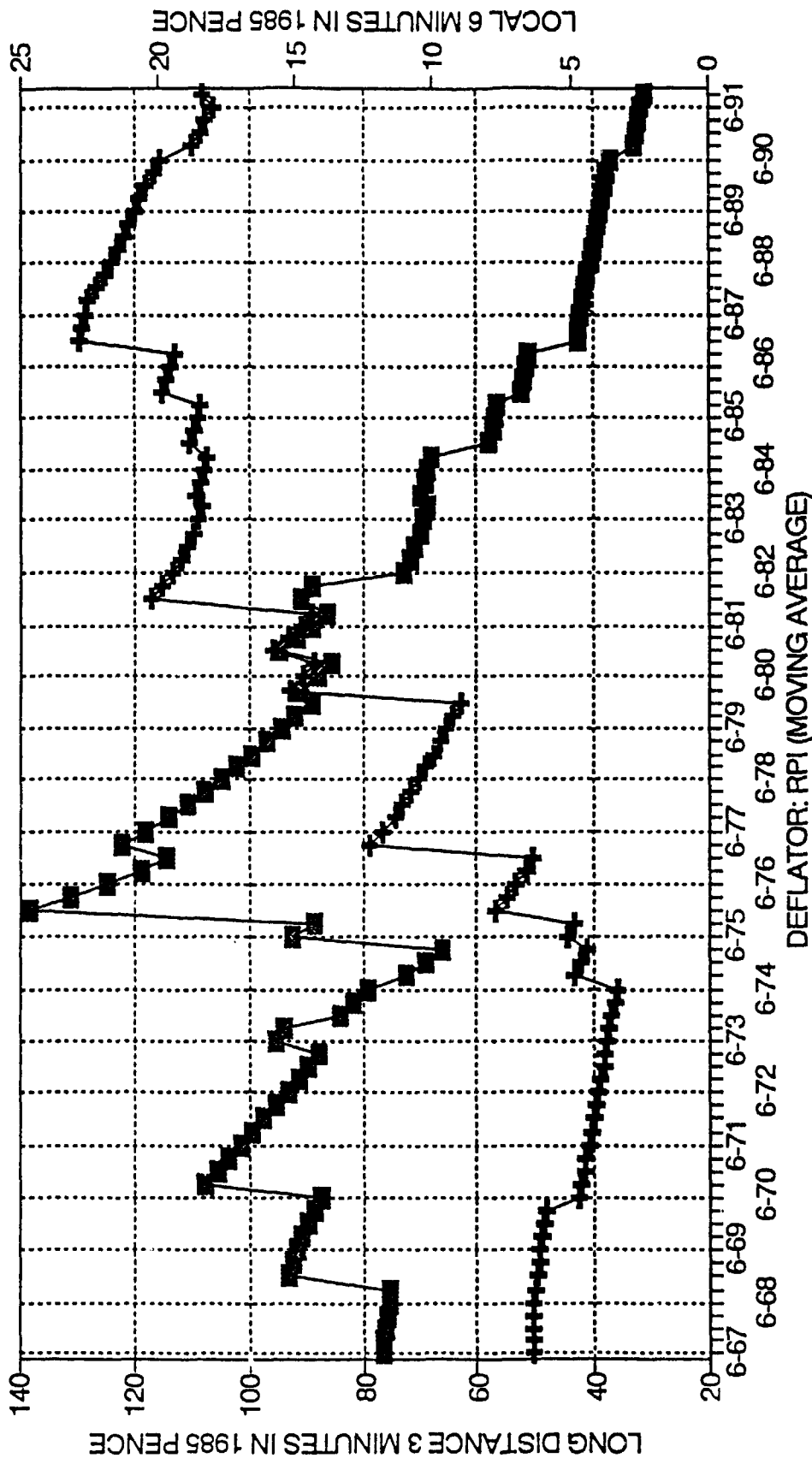


FIGURE A1

UK REAL RESIDENTIAL PRICES QUARTERLY RENTAL AND CONNECTION CHARGES

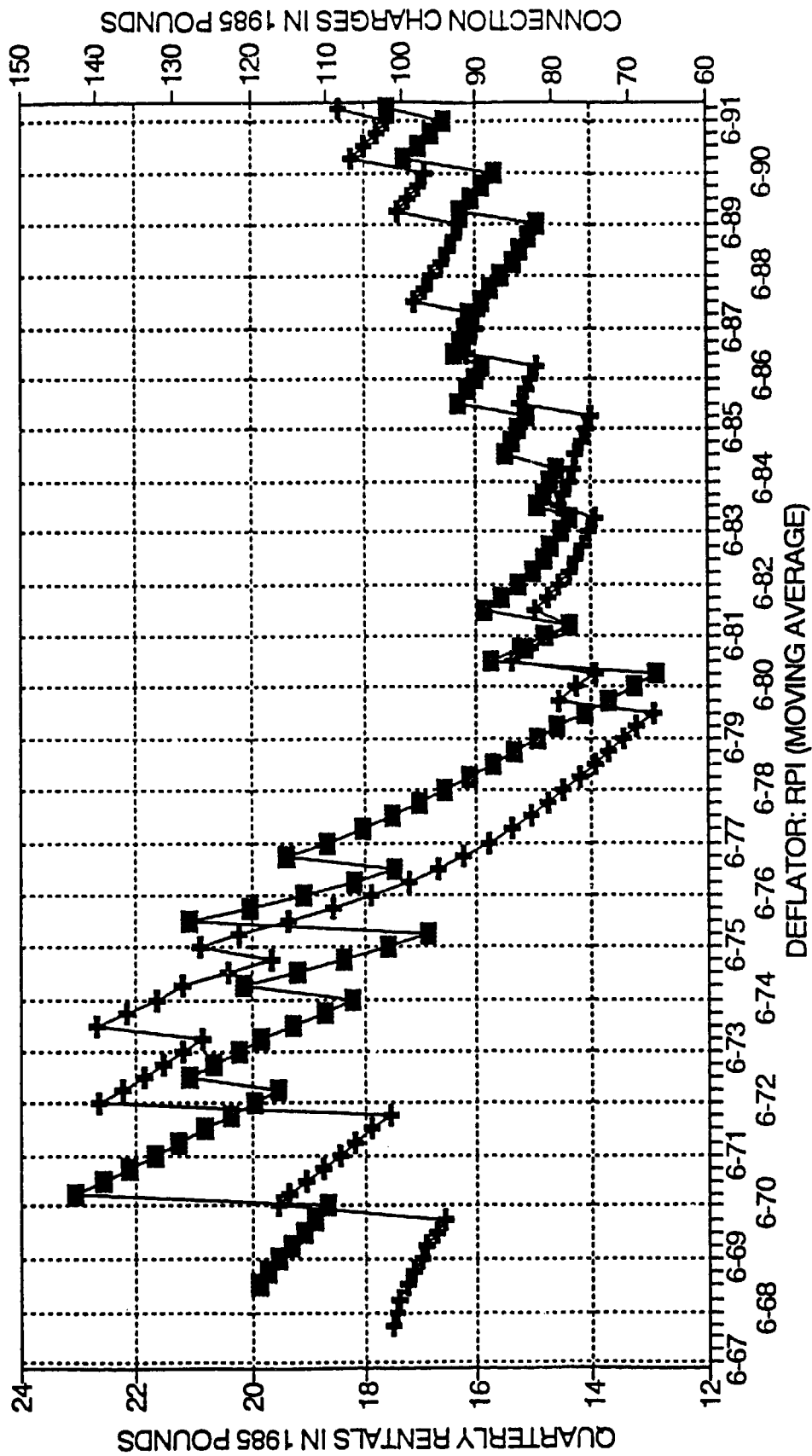


FIGURE A2

■ RENTALS + CONNECTION

BT'S SHARE PRICE AND THE FT-500 INDEX

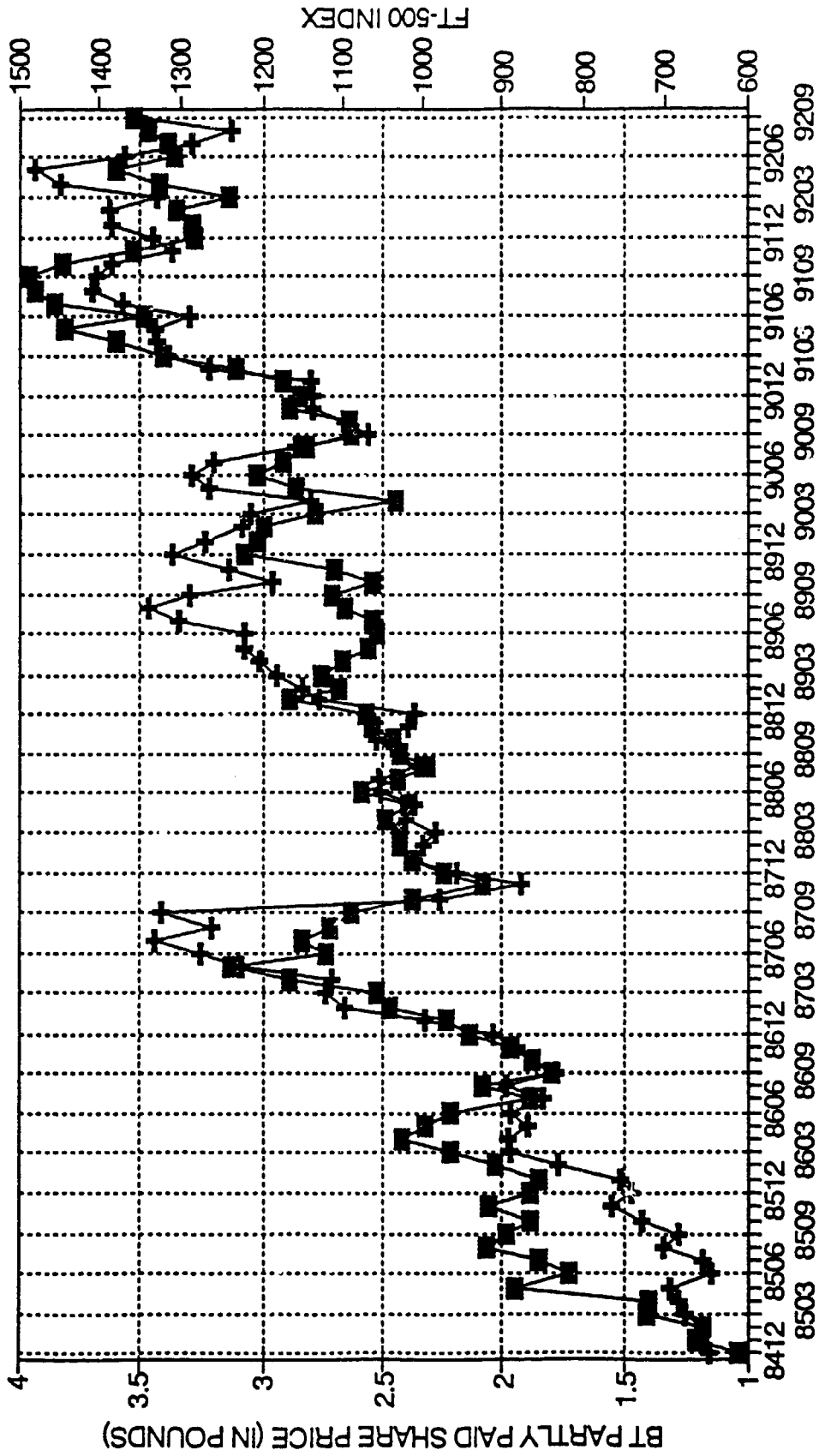


FIGURE A3

■ BT PRICE + FT-500 INDEX

UK: OVERALL ATTITUDE TOWARDS NATIONALIZATION AND DENATIONALIZATION

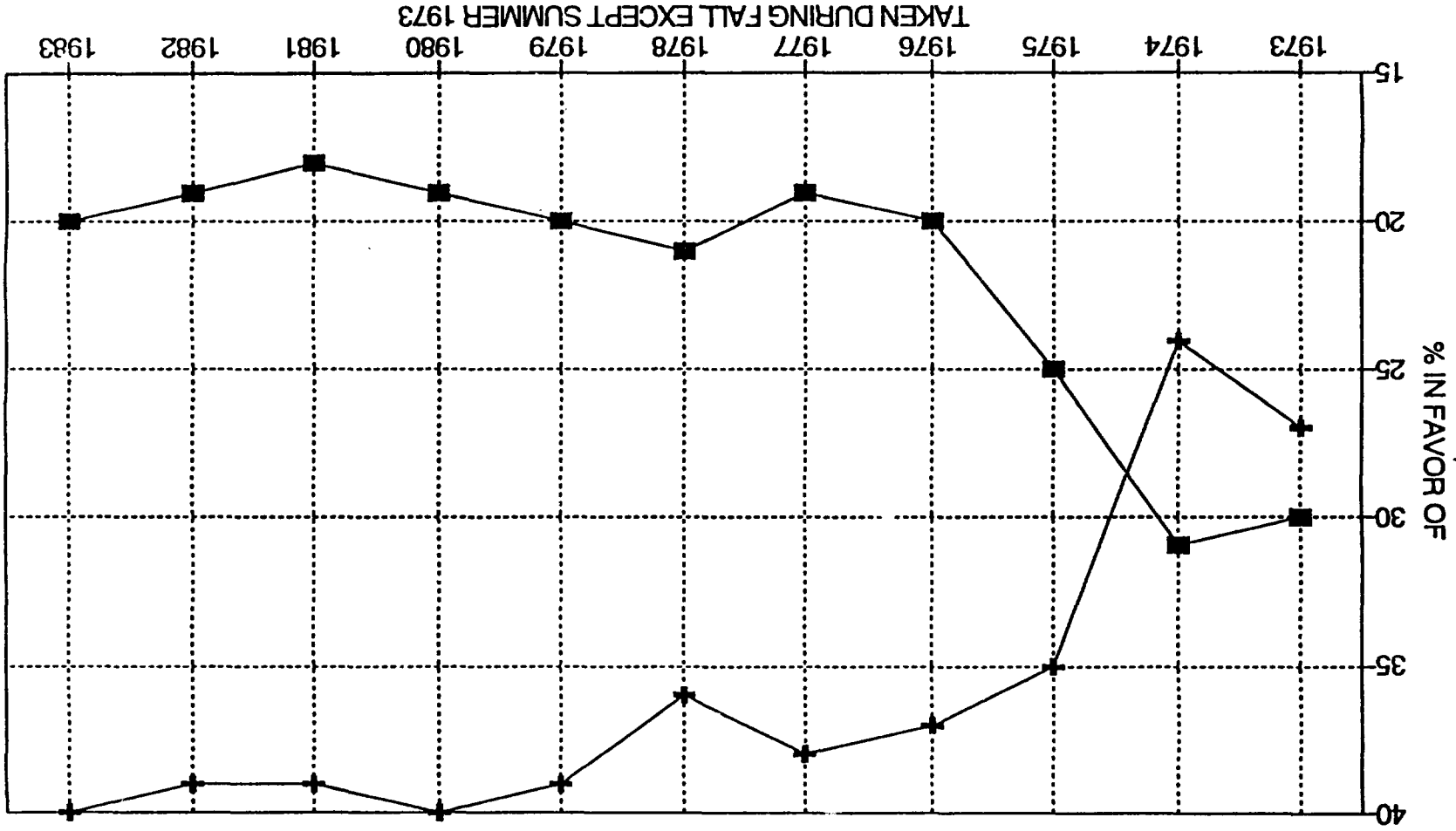


FIGURE A4

UK REAL RETURN ON FIXED ASSETS AND FIXED ASSETS

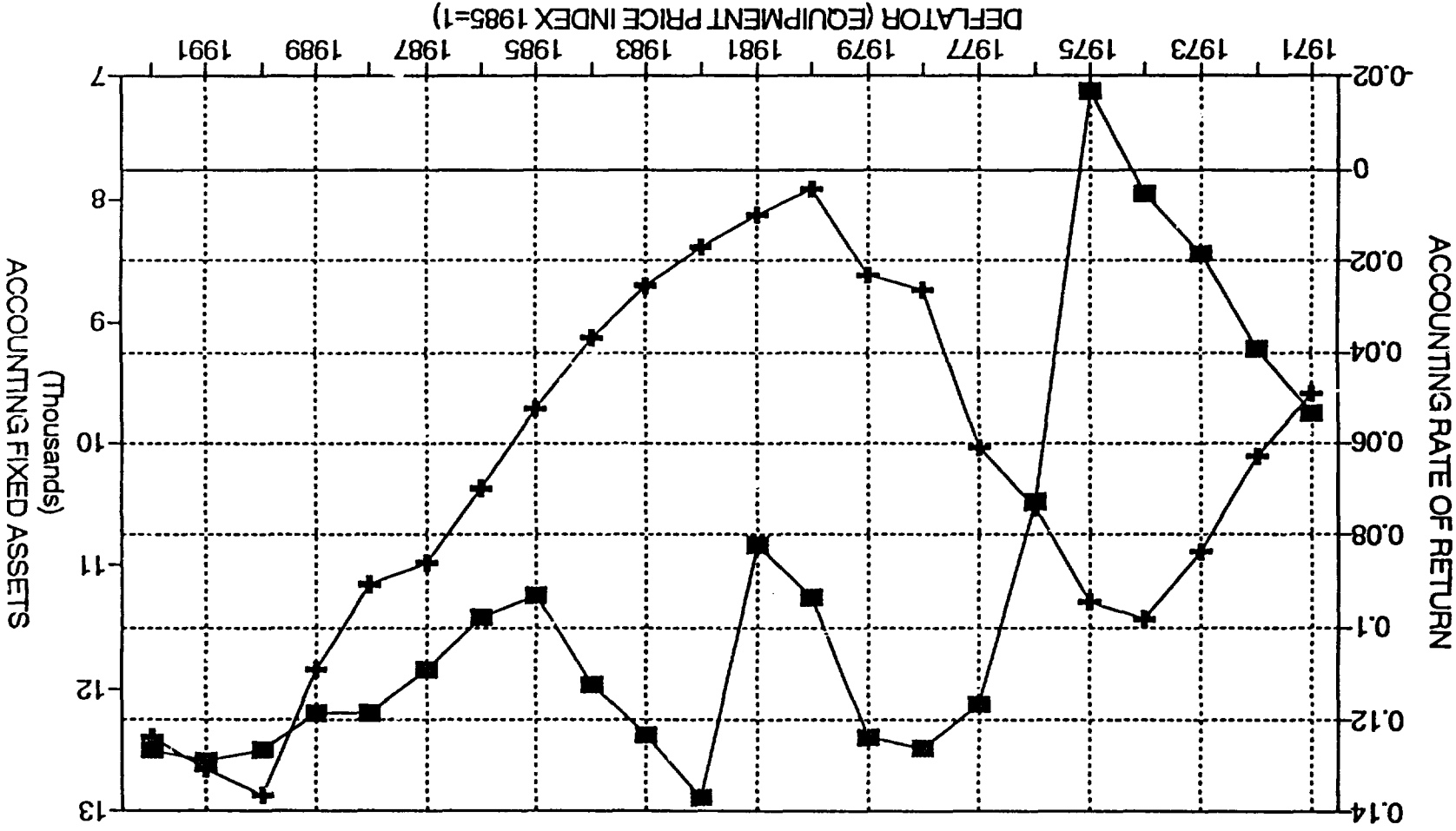


FIGURE A5

UK PRODUCTIVITY MEASURES

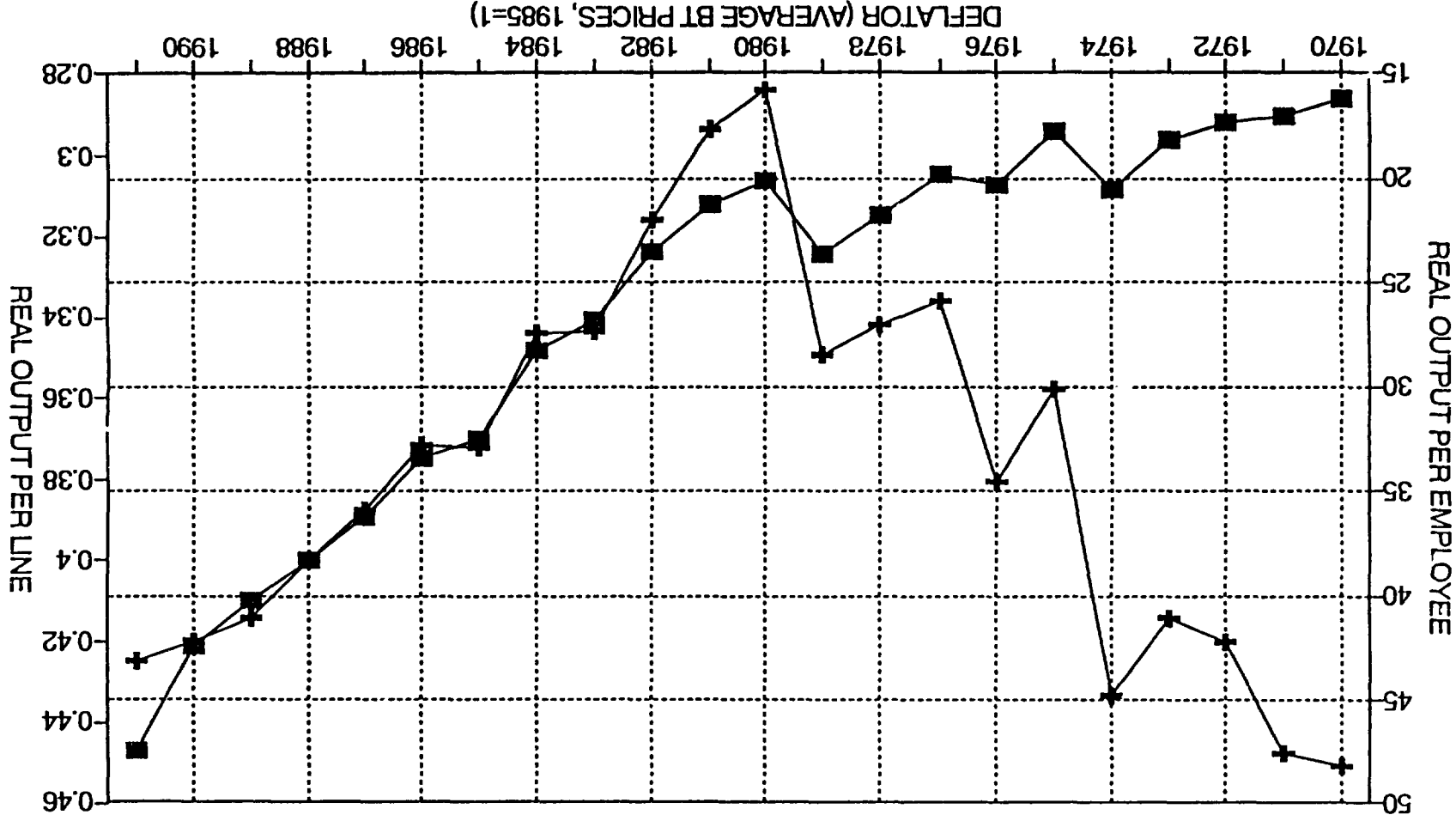


FIGURE A6

■ PER EMPLOYEE + PER LINE

UK INLAND CALLS AND MAIN LINES

RATE OF GROWTH

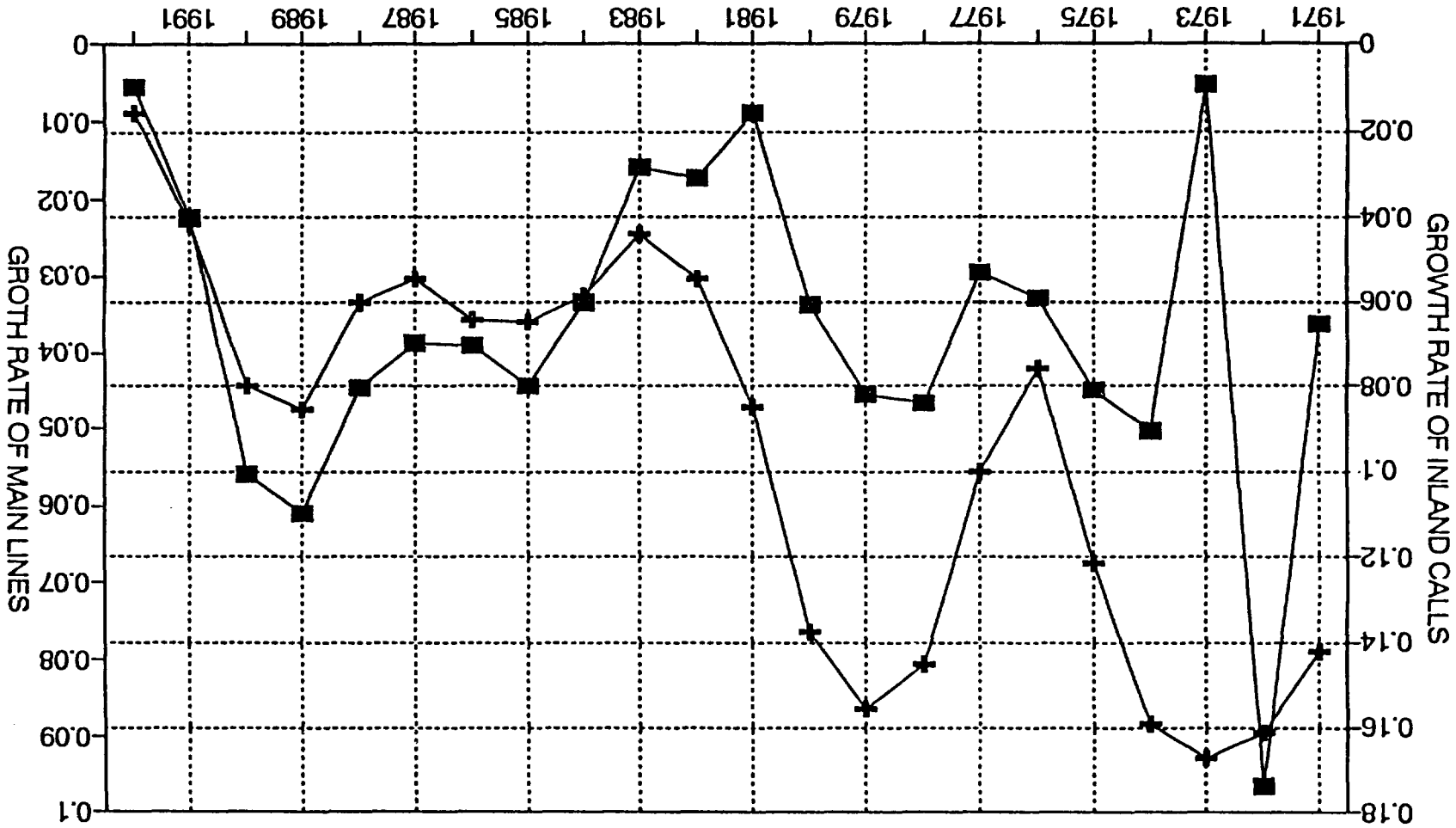
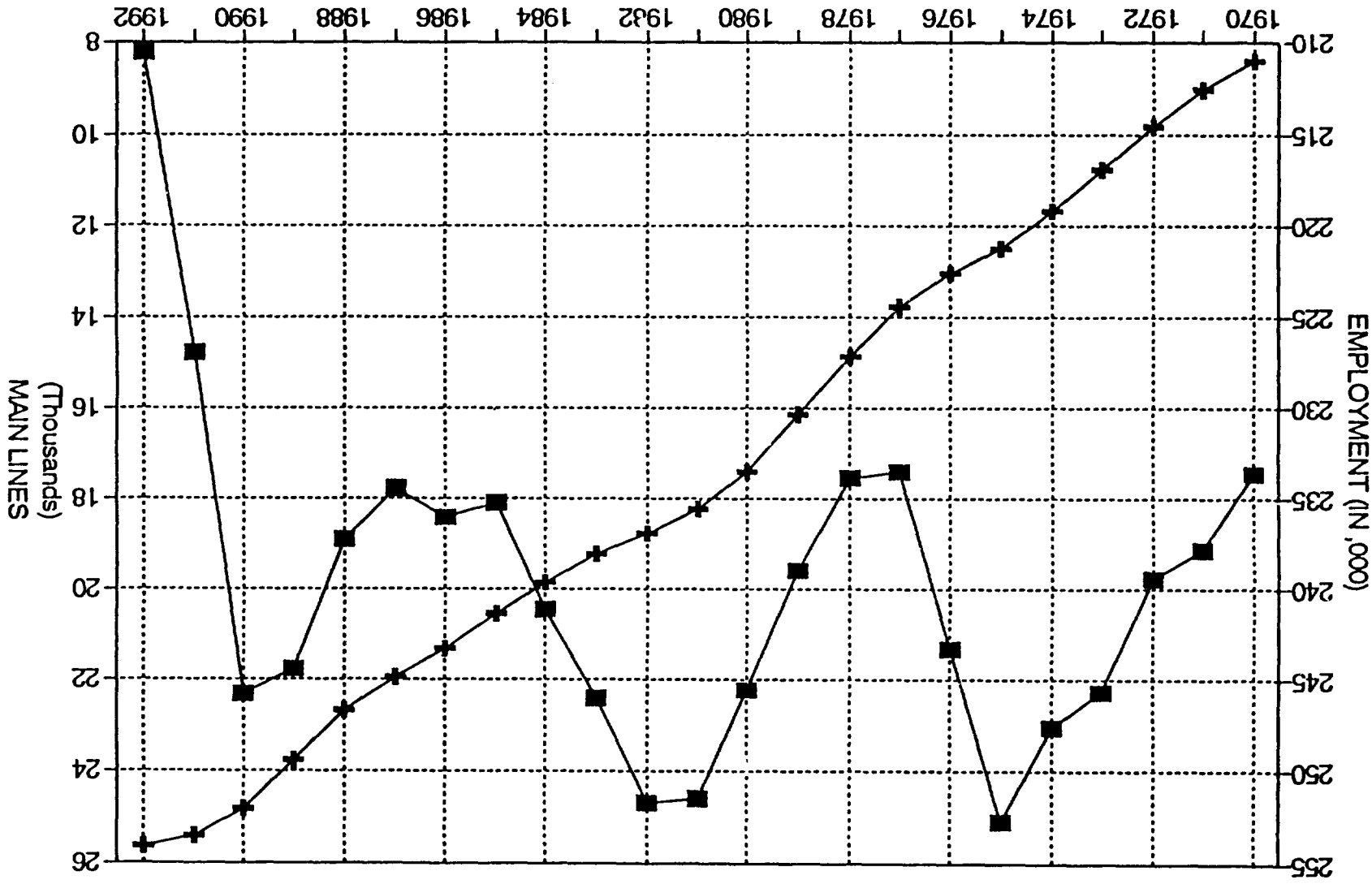


FIGURE A7

■ LINES + CALLS

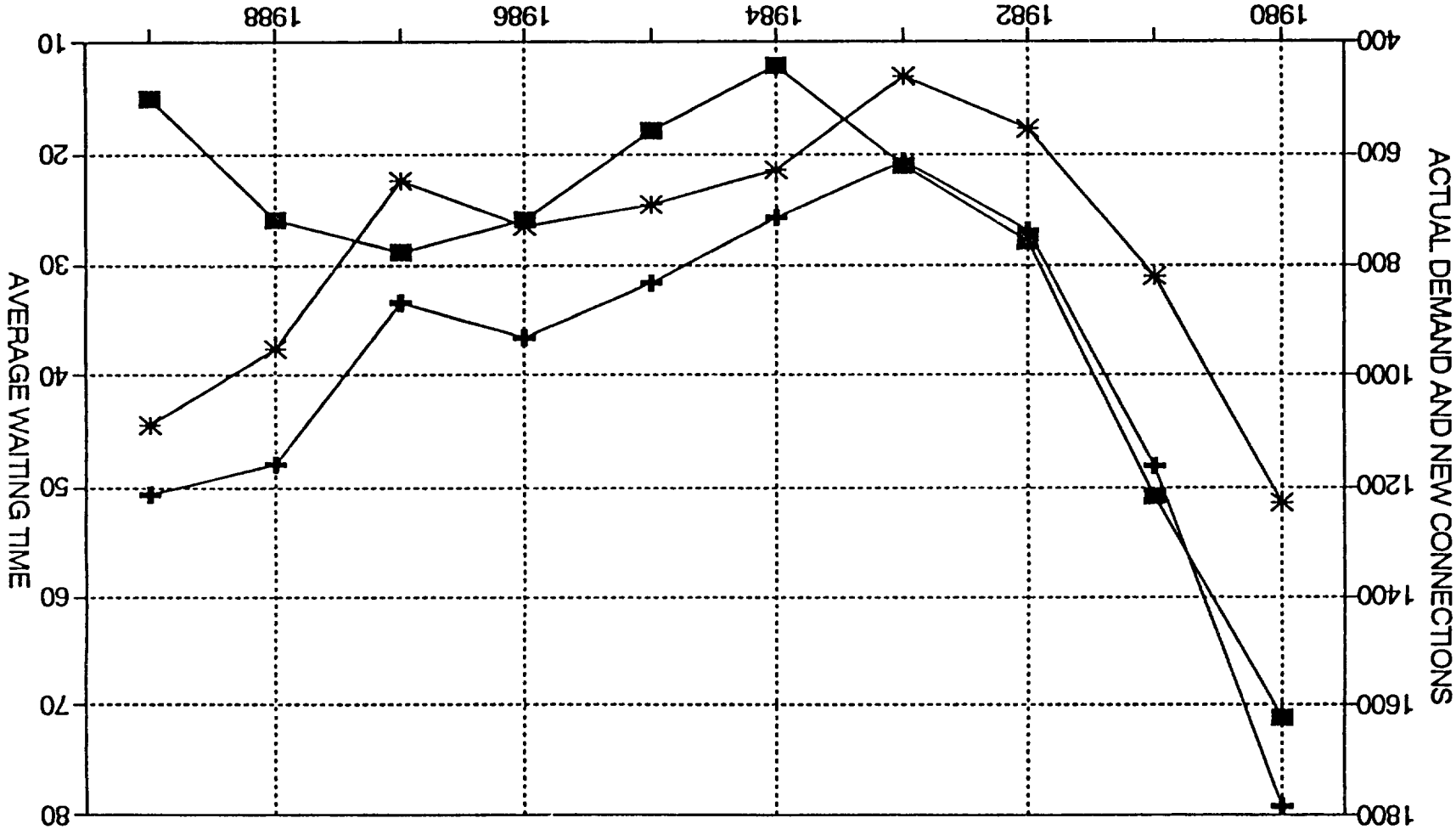
UK BT EMPLOYMENT AND MAIN LINES



■ EMPLOYMENT
+ MAIN LINES

FIGURE A8

UK: DEMAND FOR NEW SERVICE ACTUAL, CONNECTIONS AND WAITING TIME



■ - WAITING TIME * - ACTUAL DEMAND + - NEW CONNECTIONS

FIGURE A9

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