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Public Utility Regulation in Britain: Some Lessons from the Pre-1945 Experience

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Abstract

The system of public utility regulation introduced following privatisation has been the object of much criticism but, subject to reform, is likely to survive any change of government. Much discussion of the present regulatory regime, if it takes a historical perspective, does so primarily with the nationalisation experience after 1945 in mind. This paper takes a longer term viewpoint by suggesting that the pre-war mixed system of regulation is worthy of investigation as indeed is US regulation in that period. The paper focuses towards the end on some important criticisms of the present regulatory regime and compares these with concerns in that earlier experience.

1. Introduction

Privatisation of Britain's utility industries entailed the establishment of a new regulatory system. Experience of that system has provoked a fierce debate with some critics suggesting that regulation has failed and is in urgent need of reform. The Labour Party has declared that it plans radical reform of the regulatory framework if it wins the next general election.[2] However, irrespective of the outcome of that election, there seems little prospect that the utilities[3] will be re-nationalised, at least not in the near future. Amendment of Clause IV of the Labour Party constitution in 1995 means that New Labour is no longer so firmly committed to public ownership of industry. According to its leader, the ideological re-foundation of the party, effected by the rewriting of Clause IV, moves a future Labour government beyond the old battles between public and private sector toward a new definition of 'social-ism' which places little emphasis on the question of ownership (Blair 1995, pp.12-14). It appears, therefore, that regulation is here to stay (Corry 1994, p.3).

The paper is divided into three sections. In the first section, a longer term view of the debate on utility regulation is taken than that of much recent scholarship. Although it is fairly common for studies of the present regulatory system to contrast the utilities now with their experience as nationalised industries after the second world war, seldom is attention drawn to the important history of utility regulation pre-1945. This first section examines the mixed system of utility regulation in that earlier period involving utilities in forms of public as well as private ownership. It is clear that there was considerable support for certain forms of public ownership from non-socialists. Much attention, pre-war, focused on the public corporation which offered the prospect of better regulation by more efficient, more accountable public utilities yet ones operating at 'arm's length' from government.

The second section examines the American experience of regulation of public utilities which was to exercise some influence in Britain in the pre-war period. The impression is sometimes given that this interest is fairly recent. In fact, transatlantic contacts concerning regulatory issues stretch back to the 19th century and were not all one-way traffic. American regulatory practice provided a somewhat discouraging object lesson for pre-war Britain. A similar negative American influence may be seen in the design of the present-day British system of regulation with the explicit rejection of US-style rate of return regulation.

The third section examines some key criticisms of the contemporary regulatory regime in Britain and makes comparisons with regulation before the second world war drawing on British and, to a lesser extent, American experience.

2. The mixed system of regulation in Britain pre-1945

Current discussion of utility regulation in Britain normally takes place against the backdrop of the previous experience of nationalised industries; indeed, the new system of regulation was regarded by its makers as the alternative to post 1945-style nationalisation. According to Veljanovski, it was 'the failure of the regulatory functions of the nationalised industries that largely caused the crisis in the nationalised industries' (Veljanovski 1991, p.7; see also Bishop, Kay, Mayer 1995, pp.3,9). It is unusual, however, for this current debate to refer in any significant way to the history of regulation in Britain before 1945.[4]

The history of public utility regulation in Britain, in fact, stretches back to the 19th century and has involved both regulation of private companies and the regulation of different types of public ownership.

Justification for government regulation of utilities can be traced to the classical political economists in the 19th century with J.S. Mill in mid-century being one of the first to use the term 'natural monopoly' to describe the situation of local water and gas companies. (see Foster 1992, p.19; also Waterson 1988, preface; Skuse 1970, p.10). Regulation of private companies, known as 'statutory undertakings', was both on a national and local scale, and since Victorian and early 20th century natural monopolies were local monopolies they increasingly drew the attention of local authorities. Railway regulation is important because it concerned more national issues of state intervention (see for example, Marshall 1920, p.516). Keynes' substantial contribution to the Liberal Industrial Inquiry in 1928 (Moggridge 1992, pp.458-9) pointed to the great variety of forms of statutory regulation that these private companies faced.

In addition to the orthodox economic argument that natural monopoly justified regulation in the form of public supervision and control, it could also be used to support the case for public ownership.

Although the term public ownership is sometimes used as a synonym for nationalised industry (Welsh 1982, p.iii), nationalisation represents only a part of public ownership which has existed in various forms in Britain. A modern classification identifies four main forms- central government trading bodies, local government trading bodies, public corporations and state shareholding (Greenwood and Wilson 1989, pp.223-232) but it is important to note the variety of forms, some of them experimental, that existed between the wars (Macmillan 1938, p.122). This paper will concentrate on the first three forms in the Greenwood and Wilson classification since these had a particular bearing on public utility regulation.[5] Early discussions of public ownership often focused on the first form which Keynes referred to as 'Central

Undertakings operated by Central Government itself' (*Liberal Industrial Inquiry* 1928, p.67) At that time the Post Office, the Telegraphs and the Telephones operated as government departments under the direct control of a minister. It is a curious fact that well into the interwar period nationalisation was often understood to mean this form of public ownership (Hobson 1906, p.485; Marshall 1920, p.338). Keynes saw substantial disadvantages in state trading and 'if the Nationalisation of Industry' meant this he was definitely opposed to it (Liberal Industrial Inquiry 1928, p.76).[6]

Local government trading bodies, more commonly known as municipalisation, was the most significant form of public ownership in the 19th and early 20th centuries. Municipal enterprise was often regarded as the best means of controlling utilities and many gas, water and electricity services were developed under municipal control until well into the 20th century. Hobson, writing early in this century, argued that where 'restrictive legislation or partial control' of private undertakings was 'insufficient to secure the social interest against monopoly' then it might be necessary to substitute a public monopoly for a private one; although this might be on a national or a municipal scale, he believed that the 'forward movement' took the shape of 'municipalism' (Hobson 1906, pp.405, 409). Ideological support for municipalisation came from the early Labour Party. In 1918 Labour adopted a new constitution which included the famous Clause IV-commitment to the common ownership of the means of production under 'popular administration and control'. This phrase is generally taken to mean that public ownership might include the municipal form though in the new Labour Party programme, also produced in 1918, there was an absence of any reference to municipalisation.[7] It seems that pressure to transfer public ownership to a form capable of administering utilities, like gas and electricity, on a regional or national basis served to diminish municipal enterprise (Marshall 1920, p.787; also, Greenwood and Wilson 1989, p.228). Keynes, a decade later than Marshall, was in favour of 'local public ownership of local public utilities' but was 'doubtful whether the right form of organisation and the right geographical unit had yet been attained' (*Liberal Industrial Inquiry* 1928, p.77).[8]

Growing state involvement in the economy and the search for new organisational forms to balance sectional interests against those of the state, received the attention of orthodox and dissenting economists as well as politicians during the 1920s and 1930s in Britain (see, for example, Skidelsky 1967, pp.45-50). These progressive ideas on the proper mix of state and private enterprise, some of which emphasised the importance of flexibility and decentralisation where that was feasible, spanned the party spectrum (Keynes 1980, pp.644-6); a willingness, across party lines, to experiment with state intervention may also be found in support, during the interwar period, for state shareholding or, as it was sometimes called then, the semi-public concern.

However, it was the concept of the public corporation which excited most attention. Before the second world war not only Labour but Liberals and some Conservatives came to support this form of public ownership, especially for the administration and control of public utilities. The terms public corporation, public (service) board, public commission, public concern and public utility were variously used in that period indicating that this new organisational form was not a fixed one. The main prototypes were the BBC and the Central

Electricity Board, both formed in 1926 under Conservative government. It is important to recognise the role of Conservative government in introducing this form of public ownership. Although the concept of the public corporation is strongly associated with the Labour politician Morrison, architect of the London Transport Passenger Board, the actual creation of the public corporation, like the LTPB, was undertaken by interwar Conservative governments (Hanson 1961, ch.2; see also Macmillan 1938, p.174). Liberal support for the concept may be seen in Keynes' chapter on 'The Public Concern' in the report of the *Liberal Industrial Inquiry* 1928 (pp.63-83). A common feature of the various models of the public corporation, pre-war, was that there should be considerable freedom from political control and independent management. Important issues concerning the efficiency, control and accountability of the public corporation surfaced pre-1945 and these issues are not only relevant to the practice of nationalisation post-1945 but have an important bearing on the suggested weaknesses in the present-day system of utility regulation.

The very complexity of the mixed system of utility regulation pre-war contributed to a feeling that regulation needed to be 'straightened out' (Jones 1938, p.268). For many, public ownership had became the attractive option. Labour thought increasingly turned toward strong centralisation as a means of ensuring power and uniformity and this carried through into the nationalisation experience of the Attlee government post 1945.

3. Utility regulation in pre-war America and its influence in Britain

The American writer Stelzer commented recently that when British utilities were scheduled for privatisation in the 1980s a wave of British economists and other experts descended on America seeking guidance on how to regulate because the US 'had a virtual monopoly on regulatory nous'. He found it amusing that only a few years later the new regulatory system in Britain was being studied by Americans to see whether there were any lessons for the US (Stelzer 1991, pp.59-60). It would certainly be a mistake, however, to believe that the comparative study of the different regulatory techniques and systems of each of the two countries is something quite new. It was the British experience of regulation that came first and influenced the American. Regulation in Britain, as noted in the first section of this paper, dates from the early 19th century whereas the first significant phase in American federal regulatory history began in the late 19th century (Eisner 1993, p.27; see also Foster 1992, p.3). By the early part of this century a number of early American institutionalist economists, who wrote in the area of regulation, including Glaeser (1927) made reference to developments in Britain.

The period from the 1880s to the start of the Great Depression of the 1930s in the US was described by Glaeser as the 'monopolistic epoch'. The period witnessed the decline of the free market system with acceleration in the growth of large-scale business enterprise. Glaeser pointed to the birth of the administrative commission to control abuses of economic power. In the case of public utilities, however, it was wiser to change the emphasis from enforcing and controlling competition to recognising and regulating monopolies 'in the public interest' (Glaeser 1957, p.16). Although the notion of 'the public interest' as a rationale for regulation is not peculiar to the US (see, for example, its use in Hobson 1906, p.409 and

Next Five Years Group 1935, p.76), in the US, unlike Britain, it was necessary to develop a precise legal definition of which areas were in fact 'affected with a public interest' and so eligible for regulation. This stemmed from the fact that with a written, federal constitution the powers of the authorities, both state and federal, were strictly limited. This contrasted with the position of British governments, acting through Parliament, which were under no such restriction. The American economist Trebing, perhaps mindful of the formalism of the US regulatory system, recently asserted that the public utility concept was largely an American one (Trebing 1994, p.200).

The legalistic approach of the US system with its application of formal rules meant that regulators were required to set out the basis on which they arrived at a decision. This made the system open to judicial review and potentially very costly. As a rule-based system the amount of discretion available to the regulatory authorities was limited.[9] Lee Smith, writing in the US at the beginning of the 1930s in relation to regulatory commissions, gave an early warning of the danger that they operated 'not as vigorous administrators of economic policy, but as colorless tribunals interested primarily in rules of procedure and approval by the courts' (Lee Smith 1932, preface).

The view that regulation in the US was designed to curb the growth of monopoly power and to regulate natural monopolies in the public interest has been challenged. A revisionist critique has argued that regulation was often sought by industries for their own protection rather than being imposed in some public interest and that regulation which was not directly sought at the beginning was generally 'captured' later on (Mitnick 1980, p.38). The notion of 'regulatory capture' and the view that the antitrust movement was a 'triumph of conservatism' rather than a 'progressive' force is a powerful one (see Armentano 1990, pp.5-7). This perceived vulnerability of the American regulatory system to capture was a considerable negative influence over the design of the British system of regulation in the 1980s, especially in the rejection of US-style rate of return regulation (Helm 1995, p.31; Stelzer 1991, p.60; Souter 1995, p.65). It also appears to have had a bearing on British unwillingness to look favourably on the US system in the 1930s. In the next section of the paper this and related issues concerning American practice are examined in the context of discussion of contemporary concerns in Britain.

4. Criticisms of the present regulatory system and some pre-war comparisons

The charge that regulation of Britain's privatised utilities is not working and that urgent radical repair is needed invites comparison with the period before the second world war when there was similar concern about the regulation of public utilities. Obviously many aspects of the present-day debate are original to the 1980s and 1990s yet some contemporary arguments have been played out in one form or other before, if never quite in the same way.

Public corporations developed from their pre-war origins into the major form of public ownership after the second world war. However, as nationalised industries, the public utilities came to be identified with problems of efficiency, control, accountability, and consumer responsiveness that represented, in a sense, divergence from the aspirations of interwar models (Greenwood and Wilson 1989, pp.232-248; also Souter 1994, p.16). Veljanovski has suggested that the 'damning' study of NEDO 1976 on nationalised industries 'painted a picture of ad hocery, confusion and blatant political manipulation' (Veljanovski 1991, p.7). The solution to these perceived problems, according to Conservative governments in the 1980s and 1990s, was privatisation with new, specialised, regulatory agencies. This development was piecemeal and a criticism, reminiscent of that levelled at the variegated regimes of the pre-war period, was that regulatory agencies revealed no consistent pattern (Borrie 1995, pp.92-93; Foster 1995, p.135). The regulatory agencies are technically non-ministerial government departments and in each one statutory responsibility was put in the hands of a director-general who was to be remote from ministerial intervention (Carsberg 1995, p.125; Odgers 1995, p.7; Beesley 1995, pp.xii-xiv).

This paper concentrates on three major criticisms of the present regulatory system and uses these as a basis of comparison with previous regulatory experience pre-1945; in so doing, the paper develops some issues introduced in the first two sections. The three criticisms relate to:

(a) the issue of price control and discussion of alternative regulatory tools;

(b) the promotion of competition in relation to other objectives of public policy and the interests of various stakeholders;

(c) the problem of the accountability and control of the regulator and whether there should be regulation through a commission.[10]

Price and alternative regulatory tools. The most distinctive feature of the new regulatory system was the method of price control in the form of RPI-X price cap regulation (Rees and Vickers 1995, p.358; Beesley and Littlechild 1989). As Corry has suggested, a good deal of specialist debate has focused on the technical side of this kind of price regulation compared with other regulatory tools (Corry 1995, pp.3-4; see also Waterson 1994, pp.116-121).

The choice of price caps appears to have been a deliberate choice explicitly to reject traditional US-style rate of return regulation, still common in America in the 1980s (Beesley and Littlechild 1995, p.29; also Helm 1995, p.31). In the traditional form, which goes back to the early 20th century in the US, regulation is of rates of return on capital employed rather than prices. One disadvantage of this form is that, by offering a fixed rate of return, regulation provides little incentive to improve efficiency. That this is not a modern criticism may be seen in the pre-war account of the American writer Bussing who complained that 'under conventional types of public utility regulation an efficient plant which charges relatively low prices is generally allowed to earn no more on its rate base than a less efficient company which charges relatively high prices. Rewards for efficiency, in other words, are not a basic part of ordinary regulatory procedure' (Bussing 1936, p.5). The second disadvantage of rate of return regulation is that rates of return are computed on the capital base of the firm so that, by expanding the value of assets employed, utilities can earn higher profits. This can give firms an incentive to overinvest (Bishop, Kay, Mayer 1995, p.4). The principle behind price cap regulation is that by fixing prices utilities are given the incentive to reduce costs and increase profits; compared with conventional rate of return regulation there is a reward for efficiency.

British regulation pre-1945 exhibits features from both types of system - that is, price fixing and regulation through fixed rates of return; some characteristics of this mixed system, which is notable for its variety of forms, are beginning to draw the attention of critics seeking alternatives to the uniformity imposed by RPI-X, at least in the early period of the new system (see, for example, references to the Victorian sliding scale in Waterson 1994, p.120). In the gas industry there was price capping and a form of rate of return regulation in the form of dividend regulation (Chick 1994, pp.317-8). In this case, and in that of other local monopolies which were profitable and often achieved the maximum dividend, which was usually set in their statutes at 8 or sometimes 10 per cent, the problem associated with US-style rate of return regulation appeared. In order to increase their profits, gas companies watered their capital base or overinvested (Foster 1992, p.61).

One of the suggested advantages of RPI-X regulation ,when it was first introduced in the 1980s, was that it allowed 'regulation with a light touch' and avoided the complexity and administrative expense involved in establishing appropriate rates of return (Rees and Vickers 1995, p.359). This fitted in well with the notion expressed by the editors of a recent survey that the most important feature of regulation is that there should be as little of it as possible (Bishop, Kay, Mayer 1995, p.16). Unfortunately for this view price regulation has shown to be a much more complex task than the simple form of RPI-X might suggest. Over time, price control has tended to become tighter and more involved in practice (Rees and Vickers 1995, p.359). The demands of quality regulation, which have become more urgent, have contributed to this complexity. Adjusting the price cap might appear simple but there are real problems in establishing a quality index and appropriate regulatory mechanisms (Rovizzi and Thompson 1995, pp.354-6). This criticism has encouraged some economists to explore alternatives to RPI-X regulation.

Diversification of privatised utilities away from traditional core activities has also caused problems for price-cap regulation; in part, this has been caused by the incentive for firms to move into areas that are unregulated to escape the price-cap. In some measure, this is comparable with the situation of railway companies in Britain before the 1870s. Price fixing applied to conveyance charges and rates but charges for services and accommodation at railway termini were unregulated, and thus rife for exploitation (Barker and Savage 1974, p.90). Moreover, at the turn of the century some railway companies came to own buses in part because of lighter regulation in that sphere, although mainly to counter the competitive threat they posed to railways (see the account in Simmons 1986, p.37). It is an odd quirk that unregulated bus companies are now engaged in taking up railway franchises!

One recently suggested remedy to the regulatory problems brought by diversification is to link price in the regulated sector inversely to the total overall profits of the firm in both the regulated and unregulated sectors (Waterson 1994, pp.103, 120; see also Corry 1995, p.4). Waterson, indeed, has commented that a mechanism designed by Braeutigam in 1993, along the lines just described, is the modern equivalent of a form of sliding scale developed to regulate Victorian gas companies (Waterson 1994, p.120 citing Foster 1992, p.62 as his source). Somewhat in contrast to Waterson's understanding of the nature of that early mechanism, Foster has suggested that it was a kind of 'precursor of RPI-X', rather than an alternative; unlike RPI-X, however, it made no allowance for price inflation and was 'defeated by inflation during the First World War.....[and] disappeared from Britain' (Foster 1992, p.62). Chick, with an argument along different lines, has suggested that price capping in the gas industry was irrelevant since gas costs fell (Chick 1995, p.318). Nevertheless, at least in terms of institutional mechanisms, sliding scale regulation does appear to have survived well into the interwar period. The *Liberal Industrial Inquiry* was content to describe the situation in the late 1920s as follows: 'Since about 1875 dividends of gas companies have generally been regulated under a sliding scale which provides that they may increase beyond a standard figure on consideration that there is a reduction in the price of gas below a fixed standard price. Conversely, prices may rise if dividends fall' (*Liberal Industrial Inquiry*, 1928, p.74). There are examples of a sliding scale being used in the US in the 1920s and 1930s - for instance, the example given by Bussing of the electricity industry in Washington DC in the early 1930s. Bussing certainly believed that it overcame the efficiency problem associated with conventional US-style rate of return regulation. He was also clearly under the impression that the sliding scale was still widely used in Britain in the mid 1930s (Bussing 1936, p.5).

In the late 1930s the McGowan Report on the reorganisation of the British electricity industry pointed to the defects of the 'old sliding scale' system of regulation; according to an account written at the time, the minimum prices determined under the sliding scales became 'farcical' very quickly since no allowance was made for the effects of improvements in science and technology on costs (Jones 1938, p.268). Yet, 'the determination of a reasonable return to the industry had now been adjusted to modern conditions' and Jones suggested that 'recourse has been had not only to American practice but also to American theory' (Jones 1938, p.269).[11]

On the whole the mixed system of regulation with its great variety of forms, including price fixing and sliding scales, does not appear to have worked particularly well in the period before the second world war. This failure gave a further boost to those who supported more uniformity and a radical change in regulatory regime through the mechanisms of public ownership.

The promotion of competition, alternative objectives and stakeholder interests. According to some critics, the debate amongst the experts often appears to assume that the promotion of competition is the only objective behind utility regulation (Corry 1994, pp.1-3). One of the tenets of this market-oriented perspective is that there is no such thing as a public interest which needs to be asserted by public authority. Veljanovski has quoted, with apparent approval, a passage from Hayek in which he warned of 'the danger...from efficient, expert administrators concerned exclusively with what they regard as the public interest' (Veljanovski 1995, p.1). In contrast, critics of this viewpoint have insisted that there are multiple and sometimes conflicting objectives (Corry 1995, p.10; Ernst 1994, pp.194-7) and that the aim of regulation should be to balance the interests of the various stakeholders, including a public interest (Souter 1994, pp. 35-54).[12]

Although the principle of protection of a public interest via regulation in the case of natural monopolies was long established in Britain (see, for example, Hobson 1906, p.409), many orthodox economists were suspicious of state intervention on the grounds of safeguarding the public or national interest. Pigou, for instance, expressed concern that where there was political interest in a 'national interest' politicians would be subject to great pressure from persons who control votes; 'log-rolling' and lobbying were powerful forces in a democratic country and when government policy touched on private business these pressures were certain to be called into play.

As a consequence, 'state action, which, it may be, is really needed in the interest of the weak, is most likely to be invoked successfully by the strong' (Pigou 1935, pp. 126-7). In contrast, defence of the public interest, via mixed forms of management in which private interest and public representation were combined, seemed a fruitful line of development to the Liberal, Salter (Salter 1932, p.215; see also The Next Five Years Group 1935, pp.xii, 84, 90-91).

The notion of stakeholders in the economy is, of course, a relatively modern one and does not figure explicitly in pre-war discussions although the idea of balancing various sectional interests - owners and managers, workers, consumers, the state - is strongly represented in pre-war discussion of the new organisational forms mentioned in the first section of this paper. Durbin was suspicious of the direction that the public corporation might take. He was concerned that, although public corporations would have to operate within 'legally limited rates of profit', nevertheless they would possess the power and motive to restrict the quality of service rendered and to raise prices or fail to lower them in the interests of the workers and the management of the industry (Durbin 1935, p.54). This concern is similar to current worries about ensuring quality standards in today's regulated utilities (Armstrong and Vickers 1995, p.291; Rovizzi and Thompson 1995, pp.336-7). Morrison took the view that it was the supremacy of the public interest that ought to prevail and that public ownership was the best way of ensuring this rather than a private monopoly which had no real responsibility to the public (Morrison 1933, p.80).

Accountability and control of the regulator: calls for regulation through a commission. A major issue at the present time is that of the accountability and control of the regulator; the wide discretion allowed to director-generals of the regulatory agencies raises the question of where their accountability lies (Veljanovski 1991, p.x; Odgers 1995, p.7); associated issues include the call for a commission as regulator and, now that combined utilities exist - the first being United Utilities started on January 1st 1996 - support for a 'super-regulator' (see the debate on these matters contained in Corry 1995, pp.11-14; Souter 1994, pp.84-86; Borrie 1995, pp.92-3; Carsberg 1995, pp.130-132; Foster 1995, p.136).

The experience of the pre-war period is very relevant to this contemporary debate.

The model of the US commission has been advocated as a means of achieving a broader balance of stakeholder interests (Souter 1994, p.85) but interwar as well as more recent practice suggests that the commission form may have considerable disadvantages. US style commissions do seem to be more vulnerable to regulatory capture and in the period before the second world war there is evidence that their practice had a negative effect on those considering similar schemes in Britain. One British expert, Finer, lecturer in public administration at LSE during the 1930s, argued that they represented 'a shocking record of litigious, crafty and somewhat gangster methods' (Finer 1941, p.31; see also Foster 1992, p.96). Dalton, Cassel Reader in Commerce at LSE 1920-35 and a Chancellor in the Attlee government which nationalised public utilities, was aware of US regulatory experience through the interest he took in the work of a colleague Batson, lecturer and writer on public utility economics at LSE in the early 1930s (Batson 1933, pp.460-461). A negative view of US regulatory experiences before the second world war was certainly important in discouraging support for regulatory commissions in Britain and for strengthening the case for public ownership arguments as an alternative kind of regulatory regime (Foster 1992, p.64). Indeed, according to Souter, fear of regulatory capture was the main fear of Conservative government at the time of privatisation (Souter 1994, p.74).

Another perceived disadvantage of the commission form is that, in order to try to achieve balance between the various stakeholders, unsatisfactory compromises may be reached in a very lengthy process (Carsberg 1995, pp.131-132). Lack of clarity in decision making may be prevalent where the commission is weakly chaired and again there is evidence of this problem in US experience (Foster 1995, p.137).

It was, perhaps, the perceived cumbersomeness of the process which contributed as much as anything to the British willingness to dismiss American-style commission regulation before the second world war, as in the 1980s. The idea of independent, sole regulators with discretion, certainly seemed to offer a less expensive, less rule-bound and flexible alternative following privatisation (Bishop, Kay, Mayer 1995, p.10). It fitted in well with the prevailing ethos of 'light touch regulation', the promotion of competition and only substituting regulation where it was essential (Spottiswoode 1995, p.60; Whittington 1995, p.61). A key objective of the regulator was to 'incentivise' the monopoly so that in the longer term 'there would be the added bonus of the disappearance of the regulator' (Mckinnon 1991, p.95).

British regulation pre-war is interesting in that it demonstrates a variety of forms in terms of size and scope. A recent study has suggested that there is a strong comparison in the inspectors and boards of the nineteenth century and the present regulatory system. Then, as now, it is argued, there was a similar combination of the enforcement of statutory powers, ministerial supervision and independent regulatory agencies. Inevitably, accusations of bias and favouritism were levelled at individuals involved in these earlier agencies just as they have been toward particular regulators in the present regime, although sometimes unfairly (McEldowney 1995, pp.410, 419).

Experimentation with different types of regulatory agency was a feature of government intervention in railways pre-1945. For example, in 1873 a three-man commission was appointed, initially for five years, to include a judge and a railway expert, to hear complaints of monopoly abuse and other regulatory matters; the idea, like today, was that procedure would be cheap and speedy. Unfortunately the powers of the commission were too limited. In 1888 it was made more permanent as the Railway and Canal Commission (Knowles 1922, pp.275-281). The Railway and Canal Commission with its court-like form of organisation and the Electricity Commission later on, which also adopted legalistic procedures, probably represent the nearest parallel in Britain to the American regulatory commission.

According to Foster the commission form was more generally used in Britain from the 1870s but was becoming less significant by the 1920s as interest in the various forms of public ownership increased (Foster 1992, pp.17, 64). By the early 1930s observation of the practice of regulation in Britain was causing concern. In a matter reminiscent of the discussion of regulatory capture in the US, Chantler alleged that the purposes of regulation 'may be not to protect the consumer against monopoly exploitation, but to safeguard the producer against the possible development of ruinous competition' (Chantler 1933, p.114). Given the choice of a regulated private monopoly or public ownership Morrison was in no doubt which would be more likely to resist improper influence, corruption and jobbery (Morrison 1933, p.80).

5. Conclusion

When price cap regulation began to be introduced to the newly privatised utilities, now more than a decade ago, it appeared to offer, at least in the minds of its supporters, considerable advantages over both nationalisation and regulatory practice in the US. Some of these suggested advantages, such as the alleged simplicity, cheapness, rapidity of process, have been mentioned in this paper. However, experience of regulatory practice over the last ten years suggests that the uniformity of the RPI-X approach is being broken down amid calls for new quality mechanisms and the need for greater accountability. There are signs that the regulatory burden is becoming more complex and onerous rather than being diminished.

This paper, in its consideration of regulatory practice in Britain and the US pre-war, has attempted to show that some important contemporary criticisms had their parallel in that pre-war epoch; furthermore, the paper has suggested that the relative failure of pre-war regulation with its variety of institutional forms and various regulatory tools, points to inherent difficulties in attempting to control private monopolies; increasingly the view came to be accepted across the party spectrum that public ownership offered the solution to the problem of the utilities.

New Labour is committed to radical reform of utility regulation, albeit in a form that appears to rule out re-nationalisation. The appeal of a tougher regime, perhaps through new institutions like the commission, is gaining strength. The possible dangers of this kind of approach have been explored here; it is, in part, recognition of the difficulties intrinsic to the process of regulation that has led some market-oriented economists to look forward to the disappearance of regulators by encouraging the 'incentivisation' of the utilities and the promotion of competition.

A possible future Labour government, having tried regulation, either of the 'light touch' or more heavy-handed variety, may well conclude eventually, as many non-socialists did pre-war, that public ownership of utilities is a better solution to the perennial problem of control. Finally, this paper, through its attention to pre-war interest in mixed kinds of private and public undertaking and its pointer to different forms of public ownership, is a reminder that nationalisation need not be the only option. As Dalton said sixty years ago 'we must experiment, adapt, learn from experience, and encourage variety of form to fit variety of conditions' (Dalton 1935, p.93).

Endnotes

1. University of East London. I am grateful to the editors of this journal for their helpful suggestions on earlier drafts of this paper and to the two anonymous referees for their useful comments. The usual disclaimers apply.
2. Report in the *Financial Times* September 20th 1995.
3. A standard account of utilities would include gas, water, electricity, telecoms and often extend to rail and postal services; while recognising that there are some difficulties of definition the author has used the terms public utility, utilities, utility industry fairly interchangeably unless otherwise

indicated.

4. Veljanovski draws attention to the fact that regulation is not new in Britain but then confines his treatment essentially to a contrast of present forms of regulation with the experience of the nationalised industries. There is little mention of the pre-nationalisation period of regulation in his account (Veljanovski 1991; see also Carsberg 1995). The work of Foster (1992) is an honourable exception to this tendency as is the recent account of Chick (1994). A brief history of utility regulation pre-1945 is also contained in National Consumer Council (1989, ch.2).

5. The paper is leaving aside the issue of the transfer of power to workers themselves through forms of workers' control which was a key element in part of the socialist pre-war debate on public ownership (see, for example, the discussion of guild socialism in Hobson 1906, pp.485, 487 and Durbin 1935 on 'dangerous syndicalist tendencies' p.54). This form of public ownership, however, does not figure strongly in actual schemes to regulate public utilities.

6. This form of public ownership declined in significance. In recent times no major undertakings have been administered directly by a government department, because of the unwelcome need for day-to-day supervision, but this has been at the expense of public accountability and control (Greenwood and Wilson 1989, p.227).

7. This probably reflected the growing influence of the trade union movement whose interests were collectivist and national (Eatwell 1979, pp.19-20).

8. Municipalisation has certainly declined since the 1930s and public ownership on a national level had much to do with this. Arguably, nationalisation and the taking of public utilities out of local control destroyed any hope of realising the 19th century dream of a diverse municipal socialism.

9. Writing in the early 1950s, Sleeman believed that public utilities had received far less attention in Britain than the US and one of the reasons might have hinged on the fact that American writers had to give so much attention to the legal aspects of public utility regulation, infected by the 'due process' provisions of the American Constitution (Sleeman 1953, p.7).

10. Further related issues, such as the problem of information asymmetry, lack of transparency, combined utilities and franchising, also have a resonance in the pre-war period.

11. Jones' comment is rather perplexing since it is unclear whether he is referring to his own study of the industry or the work of the McGowan committee. In either case, postwar nationalisation soon changed the ground-rules.

12. The term 'stakeholders' is one that is being increasingly used in the specialist literature of utility regulation; it appears to have been enthusiastically adopted by Tony Blair and seems bound to become part of the vocabulary of the pre-general election debate ('Today' programme, Radio 4, January 8th, 1996 and subsequent widespread media reports on the following days).

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Review Article

Pension Funds in the Modern Economy

David Green[1]

Blake, David
Pension Schemes and Pension Funds in the United Kingdom,
Clarendon Press, Oxford, 1995
pp. xxii + 607, £65

Davis, E Philip
Pension Funds: Retirement Income Security and Capital Markets: An International Perspective
Oxford U P, Oxford, 1995
pp. xii + 337, £35

The systematic study of pension funds has never excited enormous interest. Like geriatric medicine it is a topic that most of us believe is important but that we would rather someone else studied. Nowadays all that has been changed by a combination of increasing longevity, occasional scandal, (as in the Maxwell affair) and the growing influence of pension funds on contemporary corporate questions. Two excellent books have recently been added to the growing literature. David Blake's (1995), *Pension Schemes and Pension Funds in the United Kingdom*, is an authoritative, encyclopaedic study of the United Kingdom situation presenting many detailed proposals for reform. E Philip Davis's (1995), *Pension Funds: Retirement Income Security and Capital Markets: An International Perspective*, provides a typically thorough, thoughtful analysis using material drawn from twelve industrial, and two developing countries.

There are two main reasons for the recent emergence of pension funds from their previous obscurity. The first relates to the future funding of retirement incomes. Expenditure on social security pensions is the largest, fastest growing component of public spending. Furthermore, demographic trends will lead, in twenty years time, to greatly increased numbers of elderly, and more significantly, elderly frail people, who will be dependent upon retirement income provided through social security or pension funds. The second reason for the new interest in pension provision stems from the fact that the rapid increase in the assets held by pension funds and life insurance companies means that their actions are assuming ever greater macro-economic significance (see Table 1). As Davis (1995, p.3) observes 'Pension funds have a pervasive influence on the economy, affecting in particular the maturity, and to some degree, the magnitude of saving, patterns of employment and retirement, adequacy and distribution of retirement income, and corporate finance.'

One result of this phenomenon is that left and right have united in stressing the importance of pension provisions and funds, albeit that they reach different conclusions. Traditionally, analysts on the left tended to focus on the inadequacy and inequality of coverage. Today, there is a new emphasis on questions of corporate governance. For example, Will Hutton (1995, p.304), a significant voice of the contemporary left,

Table 1: Life Insurance and Pension Fund Assets (% GDP)

Country	1970	1975	1980	1985	1990
UK	43	37	46	83	97
USA	37	37	42	57	68
Germany	10	11	14	19	22
Japan	8	10	13	20	41
Canada	31	28	31	39	46[a]
Netherlands	45	51	63	86	107
Sweden	42	48	51	55	63
Switzerland	51	55	70	82	n.a.
Denmark	14	14	19	31	n.a.
Australia	26	21	20	26	39
France	6	7	7	9	13[b]
Italy	n.a.	4	3	6	12[c]

Note: n.a. = not available; [a]1989, [b]1988, [c]1987
Source: Davis (1995) p.56

has recently concluded that 'The emergence of giant financial institutions, in particular pension funds, and their growing desire to hold company equity, paying dividends, has been one of the biggest motors of short-termism...Pension funds and insurance companies have become classic absentee landlords, exerting power without responsibility and making exacting demands upon companies without recognising their reciprocal obligations as owners.' By contrast, commentators from the right have focused on the costs and negative effects of the taxation needed to fund publicly provided public pension schemes. A succinct summary of this position can be found in a recent IMF publication (1995, p.76) 'Although unfunded public pension systems may have advantages over privately run, fully funded systems in terms of the extent of coverage, the protection of the retirees, and equity considerations, there are well-known problems with these systems. The lack of a direct relationship between benefits and contributions can seriously strain government budgets; wage taxes may distort labour markets and encourage tax evasion; and the ageing of populations, especially in industrial countries, is increasingly making these systems unsustainable in the long run.'

Retirement income in modern economies is provided in four main ways (see Table 2). Firstly, there is state provided social security. Typically, this is funded on a pay-as-you-go basis. The benefits of this type of provision are that it is usually more comprehensive and secure than other forms of provision and it provides a powerful channel for the re-distribution of income to poorer pensioners. The main risk is that future governments will find it politic not to increase the real value of pensions. Many UK pensioners have already experienced the limitations of depending solely on a government scheme where a lifetime of national insurance contributions has only generated a pension approximately

Table 2: Comparative Advantages of Pension Systems

Type of system	Saving	Re-distribution	Insurance	Economic Efficiency	Principal Risk
Social security		*	*		Political
Defined benefit	*		*		Recession
Defined contribution	*			*	Investment/ Inflation
Private saving				*	Investment/ Inflation

Source: Davis (1995) p.266

equal to the means tested supplementary pension, which would be paid, in any case, regardless of contributions. Britain's experience of publicly funded pensions is in stark contrast to France, where state retirement income schemes have been so good that funded private pension provision has been largely crowded out (Davis, p. 73). The question which arises in the light of the British experience, is whether the generous level of French provision is sustainable.

In the UK, many in the relatively advantaged 'core' workforce have benefited from the second type of retirement income in the form of defined *benefit* schemes. These involve members building up a right to a pension proportionate to final or best salary and are typical of in-company schemes. The advantages of this kind of scheme are, firstly, that it provides an effective channel by which an individual's savings may be directly linked to their retirement provision, and secondly, that it scheme provides a relatively secure form of retirement income. The major risk is that recession will make coverage more limited and compromise ability to pay, particularly when a substantial share of the company pension fund's assets are invested in the shares of the company itself. The advantages of defined contribution schemes are greatest when the economic structure is stable. However, as labour markets have become increasingly volatile and a growing proportion of the workforce is involved in episodic unemployment, frequent job changing, and part-time and portfolio working, the advantages of the third type of pension scheme, defined *contribution* schemes have been increasingly evident.

Like defined benefit schemes, they provide a powerful channel for saving which may be translated into higher investment and economic growth. In addition, as they are fully portable, individuals earning income from many sources over a lifetime will not be penalised; nor will the economy suffer from distortions in the labour market generated by employees hanging onto unsuitable jobs, because of the pension rights. Defined contribution schemes are also suitable for the self-employed and lend themselves to division in the event of family break-up. However, such schemes are subject to risk from the bad choice of investments by fund managers. Furthermore, inflation is a more powerful enemy than in the case of state or defined benefit company schemes, as financial assets are more likely to depreciate in real terms during inflationary episodes than either pay (and therefore, final salaries), or social security provided pension.

The fourth type of retirement provision, private saving for retirement, is very similar to defined contribution provision, except that the tax incentives available to promote private saving are usually much less significant than those available to promote defined benefit or contribution schemes. By way of compensation, private savings are usually far more accessible than personal or company pension funds, should the individual wish to take income or capital earlier.

Weighing up the costs and benefits of different methods of pension provision in the UK has led David Blake to propose an 'ideal pensions scheme'. This scheme, which is very similar to that actually in operation in Australia, has 15 major features. Amongst the most important are, that the pension should be fully portable, adequately funded by contributions, and independently administered by a diversified set of fund managers. It would be possible to make at least some use of the fund built up before retirement and to purchase index-linked annuities with the fund. Comprehensive information on investments, management charges and all other pertinent matters would be available to pension fund members, and the industry as a whole would be supervised by a pensions fund regulator operating a compensation scheme to cover cases of fraud or malpractice. Blake looks to government for new legislation. Like many others, he is impatient for change. He concludes that 'To implement the ideal pensions scheme will take a *Pensions Scheme Act*. This was first suggested to the Wilson Committee in 1980... There can be no further delay!'

While Blake's explicit consideration of proposals for a future Labour government has led some commentators (Coyle 1995) to classify his book as the more radical of the two considered here, the reverse seems to be the case. There are several problems associated with abandoning the state system and moving entirely to the type of defined contribution or money purchase pension scheme advocated by Blake. A state administered retirement income scheme is an effective way of promoting income redistribution to the lifetime poor and ensuring that all citizens enjoy the benefit of at least a floor level of retirement income. Even enthusiastically free marketeering Chile and Singapore have maintained a state operated pension scheme to supplement their very active promotion of defined contribution schemes. Furthermore, a prudent method of diversifying risk is to mix state and privately administered schemes. Moving entirely to portable money purchase schemes implies a very rapid growth in the power of institutional fund managers, whose records of good practice in investment selection and responsible share ownership are decidedly mixed. Finally, money purchase schemes are vulnerable to major fluctuations in equity and bond market price levels. Davis' more cautious support for a combination of state and private provision is more likely to lend itself to promoting retirement income security and greater equity. This has recently been recognised in the work of the Social Security Select Committee of the House of Commons led by Frank Field MP.

As intimated in the introduction, pension funds are of immediate interest, not only because of the questions concerning their funding, but also because of their effects on capital markets and corporate governance. The growth of funded pension schemes and the increasing international portfolio diversification by fund managers has contributed to the internationalisation of capital markets. Furthermore, as Davis (1993, p.121-2) has previously observed 'funding pension schemes is likely to speed convergence of financial schemes on the

Anglo-Saxon model. Regulators and Central Banks need to be aware of the possibilities for disintermediation and changes in banking behaviour - including financial fragility and systemic risk.' So far, such risks have been deemed worthwhile as there are considerable advantages to governments in the deepening and internationalisation of capital markets to which pension funds have contributed so much. One of these advantages is that the growing appetite for internationally diversified portfolios of bonds has meant that it has become much easier for governments to fund their borrowing. France has provided a good example of this phenomenon. In 1986 only 1% of French government debt was held abroad, by 1992 the figure had reached 38% as financial institutions strove for 'exposure' to the strong and relatively high-yielding Franc. As pension funds increasingly internationalize their holdings, the proportion of government debt held abroad will continue to grow, with significant implications for governments' freedom of action and the economic influence of international capital markets.

In the corporate governance field, the activities of pension funds are attracting ever more attention. One source of increased attention has been campaigning activity, most notably that co-ordinated by PIRC - the corporate governance consultancy which spearheaded the recent effort to convince financial institutions holding British Gas shares to vote for a review of that company's executive pay practices. From within the industry the growing popularity of index-tracking has meant that pension funds are increasingly holding rather than selling shares in under-performing companies. This is increasing the pressure to be active rather than passive owners. One result has been that by the end of 1995 the National Association of Pension Funds (NAPF) was being urged by its influential investment committee to adopt a new policy of urging funds to vote their shares. As the Financial Times commented: 'The NAPF new policy...could lead to a big shake up in UK corporate Governance because the current practise of many pension funds is not to vote regularly.' As ever more people become dependent on pension funds for retirement income, and as their wider economic influence increases, one thing is certain; pension funds will receive much greater analytical and popular attention in the next twenty years than they have in the past twenty years.

Notes

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Financial Times, November 16, 1995, London.

Hutton W., 1995, *The State We're In*, Jonathan Cape, London.

IMF, 1995, *World Economic Outlook*, May, Washington D.C.

Review Article

The Importance of not Knowing: a critical review of three microeconomics texts

Brian Macauley and John Sedgwick[1]

Earl, P E
Microeconomics for Business and Marketing
Edward Elgar, 1995
pp. xiv + 432, £14.95

Luenberger, D G
Microeconomic Theory
McGraw Hill, 1995
pp. xv + 486, £19.95

Pashigian B P
Price Theory and Applications
McGraw Hill, 1995
pp. xix + 760, £19.95

In his review of Peter Earl's new textbook in the last edition of this journal, R. Woodfield (1995) doubted the ability of the weaker student to cope with the text, suggesting that they were likely to be more comfortable cranking out standard neoclassical set pieces. Having taken some 200 second year undergraduates through an intermediate microeconomics module built around the book, we have some sympathy with his argument: more to the point, so would many of them! In our opinion, Earl's book is too long, too long-winded and too idiosyncratic. Though the text carries numerous worked essay examples, it appears to be written more with the tutor than the student in mind. The chapters regularly assume a familiarity with economic literature which is unrealistic, and a commitment to read on the part of the undergraduate which borders on the heroic. Further, the chapters are inconsistently structured and certainly difficult to read at a single sitting. Our students argued heatedly that the book could not be used as a text book. It provided no easy routes to acquiring the minimum required level of knowledge and understanding. They were forced to read sections, if not chapters, again and again to follow the argument. Accordingly, whilst Earl is competitively priced, it does not represent good value for money in terms of time economies.

However, we shall continue to maintain the book as the adopted text. For a start, it did get students to recognise that diverse schools of microeconomic thinking exist, with lineages that can be, and indeed are, traced back to the 19th century. No other current text book on microeconomics, to our knowledge, remotely covers the same ground. In Earl, the reader encounters a potent cocktail of history, agency, uncertainty, evidence, case histories, institutions and strategy as key ingredients in theorising about economic relations between people. It demonstrates the potential usefulness of an eclectic approach, which recognises the current state of microeconomic theory to be problematic.

Earl's book is of course in marked contrast with the standard neoclassical text as exemplified in the second book under review, by David Luenberger. Designed for the advanced undergraduate and post graduate student, the book succeeds in its aim of conveying its message to the reader in two basic modes, the textual and the mathematical. The mathematics are kept to a fairly general level within the text, in order that the reader may gain a basic understanding of the theories being addressed and the broader policy considerations that may arise. Furthermore, specific consideration is given to a number of real world examples. There is a particularly interesting treatment of the externality problem within a novel analytical framework found in chapter 10.

Neoclassical formalism is, of course, predicated upon the condition of certainty. Remove this condition and in the words of Koutsoyiannis:

> ...businessmen's expectations cannot come close to objective reality. Different firms will form different assessments of future events. Consequently, firms will respond differently to the same conditions of the environment. (1979, p.261)

For this reason, the problems associated with 'not knowing' are generally given room towards the end of orthodox text books. Luenberger is no exception, but, interestingly, this does not prevent him from asserting that microeconomics is a science, and that its conclusions and predictions must be tested. Given the heavily deductive nature of neoclassical microeconomics, one is reminded of Kline's statement that, 'Deductive reasoning, by its nature, guarantees the truth of what is deduced *if the axioms are truths*' (1980). If one is not clear on the extent to which one's axiom is 'truth', deductive reasoning may be of little assistance in arriving at useable results, as opposed to logical 'consequents'.

A question that arises in the context of neoclassicalmicroeconomicsbooks generally, is the educational value of teaching a system of thought which places such heavy emphasis on deductive logic, particularly when it is no longer even argued that progress is made in this way in the 'hard' sciences. Students who devote much of their time to producing and understanding logical constructs within an axiomatic framework, may not acquire the more subtle skills necessary for critical appraisal. Indeed it could be argued, that the inference which one might make from the standard neoclassical text-book, that the mass of economic agents follow a course which is predictively pre—determined, continues to hinder understanding of complex economic systems.

In moving to Pashigian, it becomes clear instantly that his and Luendberger's texts are aimed at different markets. Pashigian's neglect of depth in theory stands in sharp relief to the approach adopted by Luenberger. His claim that "most readers of this book will never take another Microeconomics course" suggests that business students are the targeted market and provides them with a unproblematic course founded upon the central tenets of neoclassical theory, again without offering them the scope or opportunity to question the basic philosophy of the approach. Considering that many students to whom Pashigian is directed will eventually work in some form of business environment, it might have been thought useful to discuss the work of the 'New Institutional School'. It is, perhaps, not surprising, that in many Business Schools, economists do not contribute to teaching and researching in the field of corporate strategy!

The strength of the book is to be found in the vast array of examples, which are readily accessible to the majority of students, without the need for more than the rudiments of mathematics. These are indeed useful and where it is thought that application is more important than the establishment of theoretical tools of analysis, Pashigian's book will be of interest.

The failure of both the Luenberger and Pashigian texts to acknowledge the increasing influence of Austrian economics is a major shortfall, given that this has been the principle motivating force, for better or worse, that has dominated the formulation of microeconomic regulatory legislation within the United Kingdom. Indeed, the development of institutional structures suitable for analyzing the evolving market system, has played a vital role in the policy considerations for the adopted institutional frameworks within the emerging market economies of Eastern Europe.

In conclusion, while not denying that Pashigian and Luenbergerberger are good neoclassical textbooks, one must raise the question of why there are not more books like Earl's, which at least acknowledge the world outside neoclassical orthodoxy, and in particular, the growing influence of evolutionary economics and institutional economics. Such consideration is important at both the basic and advanced level of microeconomics teaching. Books such as Pashigian's should acknowledge the problems inherent in adopting formal predictive models and promote understanding as to why organisations have evolved as they have. At the advanced level, it would be desirable if books such as Luenberger's acknowledged that at least part of the future lies in disequilibrium theory, rather than exhaustively expounding the possibilities of equilibrium based theorising. Reference to the emergence of institutions to deal with complexity and uncertainty will offer students a greater scope for understanding how the economy actually works. We can never attain the degree of deterministic predictability envisaged by Laplace from his deductions of Newton, but possibly we can harness the power of complexity to further our understanding of dynamic economies as long as we cease the pursuit of mechanical determinism. Put more graphically, in a sadly neglected book, by Paul Auerbach

> ...the firm, or at least its masters, are not inanimate - if they find themselves being the subject of equalisation, they are likely to do something about it. (1988, p.84—5)

Notes

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Reviews

Nielsen, J., Madsen, E., and Pedersen, K.
International Economics: the Wealth of Open Nations
McGraw-Hill, London, 1995
pp.264 , £16.95, pbk

Nigel Grimwade
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International economics is one of those branches of economics which suffer from an oversupply of textbooks. It is often difficult to decide which books are particularly worthy of attention and which books should be ignored when recommending reading for students. Clearly, from the point of view of the writer, the production of yet another such text is a risky business, notwithstanding the growth of international economics courses. The vast number of different 'brands' means that any new entrant to the market is unlikely to capture anything more than a very small share of the market. The best hope of success lies with product differentiation!

To a large extent, although in certain respects, the book is very conventional, Nielsen, Madsen and Pedersen have indeed achieved a differentiated product. The distinctive feature of this book is that all the core matter of international economics is covered in less than 250 pages (no mean achievement given the breadth of the subject matter) and in a style which is appealing. There is a good use of tables and diagrams which are easy to understand and which greatly assist the reasoning contained in the text. Each chapter concludes with a summary and recommendation for further reading. At the same time, despite the brevity of the text, the authors have managed to maintain a high degree of intellectual rigour in their treatment of the subject matter.

Of particular note is chapter three, which contains one of the best chapters on the new international trade theory to be found in any international economics text. Much of the theoretical work which has been done in this area is highly esoteric and complex for even the best student of international trade to understand. Nielsen, Madsen and Pedersen make it possible for the reader to distinguish the wood from the trees, while pointing the interested student to the most important and recent contributions in this field. I also especially enjoyed their treatment of trade theory in the first two chapters.

Against this, the subsequent rather brief section on foreign direct investment was a disappointment. Although the basic theory of FDI is fully set out, there is nothing to link this with the earlier chapters on trade. The multinational is portrayed as just another form of capital movement, and factor movements are treated as largely distinct from trade in goods. It would have been nice to have included a brief section on the role which certain kinds of FDI have played in promoting particular kinds of trade. For example, their role in the generation of intra-industry trade provides an interesting link with the references in the previous chapter to intra-industry trade. Linkages could also be made here with later chapters on the European Single Market.

The strongest side of the book is in its explication of the analytical framework of both trade and monetary theory. The reader will find that the book omits none of the essential analytical tools to be found in the toolbox of the international economist, which are clearly and thoroughly explained in a contemporary context. The fact that this has been achieved in a comparatively small book constitutes a considerable accomplishment. As more and more universities now appear to be gravitating towards semester-length courses, students need a text which can reasonably be read in the reduced time available. Nielsen, Madsen and Pedersen will appeal for this reason.

Another strong point of the book is that this is a text on international economics written by Europeans! Most conventional international economics texts tend to be American. This creates certain minor irritations as when numerical examples are expressed in dollars or, more seriously, examples used to illustrate particular points are drawn from a setting unfamiliar to European readers. This Danish contribution is thus to be much welcomed.

My primary reservation would be the statement on the back cover of the book that it is intended for MBA graduates. Its essentially theoretical treatment will surely preclude this. British MBA students will want something which is both more firm-focused and case-study orientated. This necessitates a break with the conventional analytical approach of international economics as exemplified in Nielsen, Madsen and Pedersen. Perhaps unsurprisingly, given the excellence of their exposition of the theoretical aspects of international economics, the weakness of Nielsen, Madsen and Pedersen lies in their treatment of the institutional aspects of the subject matter. To be fair, it would have been difficult to have expanded the sections on institutions without substantially adding to the content. However, the MBA student will surely want more material on the role of new institutions such as the World Trade Organisation (WTO).

MBA students will also find that the book has little to say on global trends. New phenomena in trade, such as intra-industry trade, are introduced merely as something to be explained within the analytical framework. Business students, however, are likely to want more proximate explanations of how and why trade has evolved in this direction, and whether or not it is likely to continue doing so. Much the same could be said for the treatment of regionalism within the book. It would have been nice if the book could have interspersed the brief discussion of regionalism with more reference to the contemporary trend towards new regional trading blocs. Likewise, a section somewhere on regional bias in trading patterns and FDI trends would have been desirable. This would, however, have taken the book away from the more conventional framework in which it is set.

None of these criticisms should detract from what is otherwise an extremely valuable addition to the stock of textbooks of which students of international economics (and lecturers) are sure to make great use. Here is a well-written, rigorous yet concise, attractively set-out and up-to-date textbook on international economics, which is likely to be widely used by economics undergraduates and postgraduates throughout the English-speaking world.

Parker, D and Stacey, R
Chaos, Management and Economics,
Institute of Economic Affairs, London, 1994, pp.112, £9.00

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This short yet ambitious book attempts to introduce the reader to the phenomenon of chaos in non-linear systems and apply this to the fields of economics and the inappropriately titled 'management science', whilst claiming that chaos supports the Austrian conception of economics and a set of liberal laissez-faire policies. Given the scope of the tasks that the authors have set themselves, it is perhaps inevitable that they will disappoint many readers.

The first chapter sets out to summarise the authors' ideas. The reader is assured that, 'You have only to watch the clouds for a short while to understand what scientists mean by chaotic behaviour' (p.11). We are told that long-term planning and prediction is pointless, but that this need not be the case in the short-term. Furthermore, free markets, like airborne water vapour, are a good thing because they are 'clearly creative self-organising systems' (p.14). Finally, a warning is given that if we hamper firms and economies with 'rules, regulations and plans...the result will be certain stagnation. The (correct) alternative is to free the firm or economy' (p. 17) .

By implication the impression is given that because feedback is a feature of human action, all of economics and management studies is potentially non-linear. However the authors do not inform us of a weakness of both linear and non-linear natural science analogy modelling of economic behaviour; namely that natural science phenomena, including those in the non-linear domain such as clouds, are comparatively simple. Human action phenomena are innately complex and, if one goes down to the level of individual psychological causation, ultimately unknowable.

The text might also be argued to be question-begging in certain respects. Where for example is the line to be drawn between the linear and non-linear domains in human behaviour? How is one to distinguish between the short-term, where planning is effective and the long-term where it is futile? Furthermore, is it possible, as Parker and Stacey do, to advocate the free-market system, when the outcome of any free-market process is unknowable? To be fair, Parker and Stacey do not avoid the last question. However, they claim that free markets will 'optimise' flexibility, notwithstanding the fact that they provide no definition of optimum flexibility, nor any set of factors which could cause the degree of flexibility to be optimised. There is no recognition that free markets could well be destructive; for example, globalisation leading to competition over labour standards. Nor is there any overt recognition that free markets are the outcome of political decision making; these outcomes could have been otherwise under different societies, they are not derivable from the logic of non-linear mathematics. Indeed the only substantive claim for the superiority of a liberal market economy is that it will 'allow outcomes to evolve' (p.16) without any idea where it is evolving to. Yet this is too vague a claim; outcomes will 'evolve' under any system even under USSR style central planning (lower post 1945 GDP growth rates than the UK) or French style indicative planning (higher post war GDP growth rates than the UK).

When it comes to championing the

abolition of rules and regulations the authors are again on shaky ground. US trade was not liberalised during its golden age of the 1940s and 1950s. Economies like Japan and Germany were, and still are, far more rule and regulation bound than the UK. Yet which was the more stagnant and which the more creative? Anti-competitive behaviour is a possible outcome of freeing firms from rules and regulations, which is why Governments feel compelled to try and rule against it.

In summarising what chaos is, Parker and Stacey's second chapter is on surer and less controversial ground. Those seeking a non-technical and non-mathematical guide to the 'meaning of chaos' will be heartened. Yet when they write of 'systems far from equilibrium...automatically apply internal constraints to keep instability within boundaries' p.28), one should bear in mind that such constraints need to be specifically built into a non-linear model exhibiting positive feedback. They suggest that the market forces of supply and demand will bring about price changes which will moderate economic behaviour. Yet one is entitled to ask where are the 'automatic' constraints in the labour market or in the phenomenon of income distribution? It is always difficult to see the value of fractal diagrams and the unconvincing example of the 'butterfly effect' when explaining the relevance of chaos to economics, yet the fractal quality of a system expanding and then folding back on itself rather than exploding exponentially is an attractive one for economists to consider.

The authors are on less firm foundations when it comes to drawing the 'lessons from chaos' (pp.39-41). They are caught between denying any precise links between cause and effect and referring to agents' lack of knowledge, yet blithely writing about equilibrium, the distance from it, and proposing policies which will 'promote maximum adaptability'. Yet how can equilibrium be defined, particularly for economists of the Austrian school? As market clearing? As effective demand equalling potential supply? As an absence of any price movement? How do we know that entrepreneurs will be the most appropriate means for achieving equilibrium in a non-linear economy? We cannot know their effect nor can we know whether deregulation and liberalisation are appropriate policies especially for an economy which may be at a competitive disadvantage in other aspects of 'adaptability'.

The third chapter provides a condensed survey of the current state of the study of management. For Parker and Stacey, the main contribution of chaos theory to management, is to highlight the inadequacy of simply imposing organisational changes in imitation of what has happened elsewhere, and to emphasise the 'essentially disorderly and unplanned nature of strategic redirection and organisational transformation which takes place informally' (p.62). To ensure that firms and public sector institutions have the requisite 'mental agility and accompanying organisational flexibility' (p.67), they need to be exposed to the rigours of the competitive market. Of course, this policy prescription comes with Parker and Stacey's honest warning that 'there is no guarantee that this will work' (p.68), but be on the look out for privatisation, competitive tendering, 'de-layering' middle management, decentralisation and independent profit centres within organisations. It will no doubt reassure workers in the education business to learn that chaos theory assigns management consultant techno-speak of 'total quality management' and 're-engineering', imposed from other areas, to the dustbin.

Chapter four attests to the fact that chaos theory has provoked a good deal of theoretical interest in economics. Much of this has been in monetary and financial economics and virtually all of it has used first-order difference equations, a notable exception being the third-order model in Smith et al (1994). Furthermore, the empirical performance of chaos in economics has not been impressive (pp.71-74). The implications for econometrics are profound: out goes regression; all variables must be known and perfectly specified; all parameters accurately forecast; there must be no rounding; data must be complete and exact; and time series need to be longer. Given that these conditions are not going to be met in full, quantitative economists are advised to give up any pretence that they are engaged in predictive science, and settle for identifying patterns as part of a retrospective explanatory discipline (pp.76-78). Chaos appears to drive nails in the coffins of: 'rational expectations'; Keynesian demand management; anything beyond day-to-day planning; futures markets; steady state equilibrium; welfare economics; and neo-classical economics. What survives the fiery flames of chaos? Austrian economics from von Mises to Hayek and Kirzner in which the innovating entrepreneur drives economic activity.

Overall it is difficult to be convinced by this book's attempt to claim that human affairs are chaotic and that liberal free markets are the best way of dealing with such an environment. A recognition that feedback is a part of human activity does not commit one to neo-liberalism. Parker and Stacey overstate their case when they herald chaos as a new 'mode of thought which challenges the whole way the world is viewed' (p.19). It will not deliver the knockout blow to mainstream economics that they hope for. Indeed there is no methodological barrier to prevent neo-classical or Keynesian economists developing models which incorporate chaos. The authors ignore the long tradition of criticising neo-classical theory for amongst other things: a lack of realism; ignoring institutional aspects; being ahistorical; ignoring the insights of political economy; basing itself on market clearing. Like catastrophe theory, chaos has proved difficult for quantitative economists to operationalise as meaningful applications. Empirically it has proved even less impressive than, supposedly inferior, linear models and those non-linear models that do not exhibit chaos. Parker and Stacey's own account lacks an historical, political or even any empirical context. Chaos is not incompatible with the Austrian conception of an economy always moving towards an equilibrium yet never achieving it, but it could as easily be viewed as sympathetic to a Marxist perspective of an unstable capitalism carrying the inherent potential for crisis and self-destruction. Chaos cannot be used to recommend a set of liberalising, deregulating economic policies, especially given the authors acknowledged ignorance of the consequent outcome of such policies.

Reference

Smith *et al.*, 1994, 'A non-linear model of share price behaviour', *British Review of Economic Issues*, vol. 16, no. 38, 73-99

Prachowny, Martin F.J.,
The Goals of Macroeconomic Policy,
Routledge, 1994,
pp. 217, £40, hbk., £13.99, pbk.

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The title of this text may give a misleading impression of its coverage. It consists of six chapters, only one of which is concerned with the achievement of macroeconomic targets, and in the very specific context of the US, during the period 1948—1990. Three of the remaining chapters are broadly concerned with the labour market, and the remaining two are concerned with the public sector. Thus, contrary to what might be expected from the title, the main themes of the book are, the impact of policy on the labour market and the difficulties of justifying stabilization policies on Pareto optimality grounds. (It is impressive that this critique is carried out with only limited recourse to the Rational Expectations Hypothesis).

A surprising aspect of the book, particularly for a British economist, is that Prachowny omits any real discussion of balance of payments or economic growth aims. These would certainly feature in any standard UK text and would have been expected to feature in any contemporary American based text, given recent discussion of the twin deficits.

In general, the text is well written and is supplemented with sensible diagrams wherever necessary. The use of mathematical exposition is limited but sensible and the average reader with an understanding of the basic concepts of algebra should have little trouble in following the various themes explored. Empirical studies are described and referred to, so some understanding of the basics of econometrics is necessary, (for example, on page 119 reference is made to TSLS and the 'Chow' test). Finally as a general comment, extensive reference is also made to the relevant literature, which is detailed in the excellent bibliography at the end of the text.

The introduction to the book commences with the question of why so many people seem to be concerned with unemployment. The rather cynical answer given by Prachowny is that they are not, but that they say they are in public, for fear of giving offence!

Chapter 1 deals with the Pareto optimality of macro-goals and a reasonable discussion takes place concerning the costs of both unemployment and inflation. The final sections of this chapter provide an interesting and useful meditation on the trade-off between inflation and unemployment.

Chapter 2 examines the conduct of US macroeconomic policy over the period 1948 to 1990. The general conclusion reached is that, in their policy design, the authorities paid insufficient attention to the evolution of the natural rate of unemployment, with the consequence that 'there were simply too many years in which the policy prescriptions were ill advised and probably intensified the cyclical nature of the macroeconomy' (p.90). This chapter is not likely to be of great significance for the UK reader.

Chapter 3 contains a good discussion of the labour market including both demand and supply aspects. The micro foundations of both the demand and supply of labour are examined, including a useful analysis of the effects of minimum/standard number of working hours per day. This leads to the derivation of market demand and supply curves for labour and consideration of the natural rate of unemployment. Various estimates of the natural rate for the US are presented, but I think that many readers will find it slightly irritating that no commentary is given on how these estimates were obtained by their respective authors — particularly given their divergence. A brief mention of the types of unemployment is made in this chapter but again, perhaps surprisingly, no attempt is made to give any idea of the relative importance of the various types in the period under review.

Chapter 4 is concerned with the welfare impacts of policy initiatives on the labour market. Among the topics discussed are the use of subsidies to overcome distortions in the labour market. This is rejected on practical 'moral hazard' grounds. Prachowny then considers alternative institutional arrangements in the labour market, including possible changes to the traditional 'last—in—first—out' redundancy rule. Subsequently, Prachowny highlights the interesting proposition that full employment policies involve a significant loss for a large proportion of the electorate, since full employment necessitates a lowering of the real wage, given a downward sloping demand curve for labour. This leads to the conclusion that, on Pareto grounds, 'the status quo has precedence and that stabilization policy initiatives are considered undesirable' (p. 150). He argues that it is only on equity grounds that stabilization policies can possibly be justified.

The final two chapters deal with the relationship between provision of public services and the macroeconomic apparatus. These chapters are closely linked, and provide a discussion of the potential for political bias in the operation of stabilization policies. Again, the general tenor of the arguments is against the use of stabilization policies. The view expressed is that the burden of proof is on neo—Keynesian macroeconomists to show that intervention is desirable and that it will not lead to a 'vast, inter—related and self—sustaining system, derisively labelled as pork—barrel politics' (p. 197).

As noted above, the main subject of the text is the impact of policy on the labour market, and of the justification of policy by Pareto welfare criteria, rather than the goals of macroeconomic policy in general. Provided the reader recognises this, the text is well worth reading, providing a good blend of theoretical and practical aspects of the policy debate.and, despite its US orientation, should find a home on many a bookshelf. At £13.99 (pbk), it is good value for money.