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The Privatization of British Energy: Risk Transfer and the State

Robert Jupe
Kent Business School

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Author

Mr Robert Jupe
Kent Business School
University of Kent
Canterbury
Kent
CT2 7PE
UK

Tel: +44 - 1227- 823347

Fax: +44 - 1227- 761187

Email: R.E.Jupe@kent.ac.uk

Robert Jupe is a Reader in Accounting at Kent Business School, University of Kent, Canterbury, UK.

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Abstract

Following the development of the New Right Agenda, Conservative Governments in Britain introduced incrementally an extensive privatization programme. This paper focuses on the failure of the last privatization of the Conservatives: British Energy, the company established to run the eight most modern nuclear power stations. A key argument used to justify the privatization of British Energy is analyzed, that of the transfer of risk from the state to the private sector. The privatization led to the apparent transfer to the company of three interrelated risks: downsizing risk; market risk; nuclear liabilities risk. New Labour's rescue of British Energy confirmed the reality, which was that residual responsibility for risk, especially the nuclear liabilities risk, remained with government. Despite the company's collapse the Labour Government sought a market-based outcome, and in 2008 British Energy was sold to EDF, the French state-owned energy company. The paper concludes with a discussion of the implications of the failure of risk transfer for public policy.

Keywords

British Energy; privatization; liabilities; risk transfer

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1. Introduction

Although privatization was conspicuous by its absence from the successful 1979 Conservative election manifesto, the Party arrived in government “with a clearly defined political and economic philosophy of neoliberalism” (Letza *et al.*, 2004, p. 194). Following their triumph in the 1983 general election, the Conservative Party led by Prime Minister Margaret Thatcher then developed incrementally a very substantial privatization programme. This programme was justified by supporters who emphasized, using property rights and public choice theories, that privatization would promote efficiency through private ownership and market disciplines. Public sector industries, it was alleged, “are less efficient because they do not experience the rigours of market forces, have no private shareholders to satisfy, and face no threat of bankruptcy” (Ogden, 1995, p. 196). Hence, a range of major state industries and utilities were privatized in the 1980s, including gas, steel, telecommunications and water. Most of the electricity industry was privatized in the period 1990 to 1991, but the nuclear power stations initially remained in the public sector until a solution to the problem of dealing with decommissioning costs had apparently been provided. This paper focuses on the failure of the last privatization of the Conservatives: that of British Energy, which was established to take responsibility for operating the most modern nuclear power plants in Britain. In particular, the paper examines a key argument provided to justify the controversial privatization, the transfer of risk from the state to the private sector.

The emphasis on risk transfer was a unique feature of the arguments used to justify the privatization of British Energy. The use of the concept of risk transfer from the state to the private sector is not unique, however, in the restructuring of the public sector. It became a

very important argument used in the development of the Private Finance Initiative (PFI), and its associate the Public Private Partnership (PPP). The PFI “extends the role of the private sector in the provision of what are generally considered to be public services (such as health, education, transport infrastructure, prisons, and the administration of the state) by signing contracts with private sector partners to design, finance, build and manage assets and to deliver associated services” (Froud, 2003, p. 567). The transfer of both operating and financial risk from the public to the private sector emerged “as the key feature which legitimates the shift in public services management, as it is meant to “secure better managed and lower cost services” (*ibid.*, p. 568) by utilizing private sector expertise.

The PFI was introduced in 1992 by the Major Government, but was greatly expanded by New Labour after 1997 as part of its “third way” approach to public service delivery. New Labour’s embrace of the “third way” provided a substantially increased role for the private sector in the delivery of public services. The most notable champion of the “third way” argued that the approach was “an attempt to transcend both old-style social democracy and neoliberalism” (Giddens, 1998, p. 33). The “third way” encompassed a “new mixed economy ... utilizing the dynamism of markets but with the public interest in mind. It involves a balance between regulation and deregulation ...” (*ibid.*, pp. 99-100). This balancing act meant that New Labour sought market solutions rather than renationalization for two failed privatizations: Railtrack and British Energy. Thus, the privatization of British Energy, and its subsequent treatment by New Labour, has important implications for public policy and for the provision of public services.

The next section of the paper places the discussion of risk transfer in context by examining the development of the New Right Agenda. The third section examines the privatization of the bulk of the electricity industry and the later privatization of British Energy. The fourth section analyzes the three types of risk which were apparently transferred from the state to

the private sector when British energy was privatized. These interrelated risks are: the downsizing risk; the market risk; and the nuclear liabilities risk. The final section provides a discussion and conclusions on the implications of the failure of risk transfer for public policy.

2. Development of the New Right Agenda

In the three decades after 1945 there was a postwar consensus over the importance of the public sector in countries such as France and Britain. The necessity for nationalized industries was widely accepted, particularly in the energy sector. Integrated public monopolies were regarded as more efficient than competing private companies, particularly in their scope for achieving standardization and economies of scale. The energy sector also had an important social role to play as “access to affordable heating and lighting was necessary to sustain a minimum standard of living, and to participate in society” (Helm, 2004, p. 15). Thus, in Britain “mainstream Conservatives never challenged the nationalized status of the electricity, coal and later gas industries in the 1950s, 1960s, and 1970s energy was part of the planned economy, and the task of government was to improve its performance within that overall structure” (*ibid.*, pp. 1, 14).

In addition to its role in the provision of key public services such as energy, the state was regarded by many as having “a particular capability for managing risk because of its size and its motivation” (Froud, 2003, p. 585). The underlying principle of the welfare state, for example, was that the state could “pool and spread risks which private sector insurance could not do or was unable to do at a price that could be afforded by those who most needed insurance” (*ibid.*). Requiring tax and national insurance payments from all those able to contribute to the welfare state meant that the overall cost could be reduced through the pooling of risk. This principle can be extended to a broader portfolio of state activities. Risks

can be shared amongst taxpayers so that the “unexpected costs for one project will make an insignificant contribution to any one citizen’s tax burden” (*ibid.*).

The postwar consensus over the state’s responsibility for service provision and risk management came under sustained attack in the 1970s. There was the genesis of a significant ideological change as the first oil price shock precipitated ‘stagflation’ – simultaneously rapid inflation and faltering or negative economic growth. These major problems both posed a profound challenge to both “Keynesian economics and the ideology of nationalization” (Letza *et al.*, 2004, p. 162), as both the role of the state in managing demand and the size of the public sector came under sustained attack by monetarists and other public sector critics. The development of the New Right Agenda, which encompassed a move towards free markets, through deregulation and ultimately privatization, lies in the major economic changes of the 1970s. The New Right Agenda was closely associated with Margaret Thatcher in Britain and Ronald Reagan in the US, particularly in the emphasis on reducing the role of the state and state-ownership as government was identified as “the problem” not “the solution” (Reagan, 1981; cited by McSweeney, 2009, p. 839).

In Britain, the Conservatives led by Margaret Thatcher developed incrementally a wide-ranging privatization programme. Assets of major public utilities such as telecommunications, gas and water were sold into private ownership through share flotations. While the privatization programme did not have a coherent set of objectives from the start (Bishop & Kay, 1988; Letza & Smallman, 2001; Shaoul, 1997; Vickers & Wright, 1989), a political and economic rationale gradually emerged. Early debates on privatization were dominated by economic arguments about promoting efficiency through private ownership and market disciplines (Flemming & Mayer, 1997; Goodman & Loveman, 1991; Letza *et al.*, 2004; Ogden, 1997; Shaoul, 1997). Later arguments focused on privatization’s importance in reducing the role and the size of the state and in raising revenue to reduce public sector

borrowing (Letza *et al.*, 2004; Ogden, 1997; Shaoul, 1997; Vass, 1992). Additional arguments deployed in support of privatization included extending share ownership (Shaoul, 1997), and weakening the power of public sector trade unions (Letza & Smallman, 2001).

The policies of privatization and deregulation developed under the New Right Agenda, while driven by influential public sector critics such as Niskanen and Buchanan with a strong focus on reducing the role of the state, also reflected a response to the perceived needs of business. The modern capitalist aims to extract surplus value from labour in order to maximize the rate of return, which is measured as profit divided by the capital employed in production. In the 1970s there was a “downturn in the rate of return on capital employed” (Shaoul, 2005, p. 467), and so capital required new policies in order to boost the rate of return. For private industry, such policies included the replacement of labour by new technology, and the outsourcing of manufacturing and services to overseas suppliers with much lower labour costs. These changes were promoted using “the discourse of shareholder value” which “serves to reassert and naturalize the prioritizing of share valuation; and to justify corporate decisions – such as lay-offs, intensification of work, off-shoring and outsourcing – that are made in its name” (Ezzamel *et al.*, 2008, p. 116).

The search for shareholder value through new sources of profit also meant that capital required new markets to access. Thus in many countries the public sector was opened up to private enterprise through privatization, the outsourcing of public services, and the development of schemes such as the PFI (Shaoul, 2005, p. 468). In Britain, “perhaps more than anywhere else, privatization and its variants have undoubtedly transformed the public sector and public life in general” (Letza *et al.*, 2004, p. 160). The Conservative Governments of the 1980s and 1990s, and the New Labour Government elected in 1997, embraced changes in public service management which have been broadly described as New Public Management (Lapsley, 2008). The public sector was required to modernize in order to

provide better managed and lower cost services, and privatization had become “inextricably linked” with modernization by the 1990s, with the “ascendancy of a right leaning ideology that favoured markets and competition” (Broadbent and Guthrie, 2008, p. 137).

Competitive market forces, according to the New Right Agenda, would allocate resources more efficiently than bureaucratic structures. The economic models used to justify such claims were the public choice and property rights theories. Public choice theorists (see, for example, Buchanan, 1972; Niskanen, 1971) argue that public services become inefficient as they tend to be run in the interests of allegedly selfish, utility-maximizing employees rather than in the public interest. Such utility-maximizing behaviour is argued to lead to waste, higher costs and inefficiency (Letza *et al.*, 2004; Niskanen, 1973; Tullock *et al.*, 2000). Property rights theory complements this public choice model, focusing on the alleged inefficiency which results from the relative weakness of property rights in the public sector compared to the private sector. Advocates of property rights theory, such as Alchian (1965) and Furubotn and Pejovich (1974), argue that such rights are more clearly defined in the private sector than in the public, and so the incentive for private owners to seek profits leads to the more effective monitoring of management performance. Ultimately, owners can sell their shares if a company’s performance is poor.

While economic models and efficiency arguments have been employed to legitimize privatizations and the development of the New Public Management, the underlying method used to achieve “efficiency” has been to increase surplus value through reductions in employment, and the underlying purpose has been to benefit capitalism by “transferring wealth from the public at large to a relatively few individuals and corporate entities” (Shaoul, 1997, p. 479). Electricity privatization, which involved a very significant wealth transfer from the public, is examined in the next section.

3. The privatization of the electricity industry

3.1 The original privatization

The British electricity industry had been under public ownership since 1948, and for much of the postwar period the Central Electricity Generating Board was responsible for operating generation and transmission as a vertically integrated monopoly. Twelve Area Boards acted as regional distribution monopolies. The industry, despite the allegations of inefficiency made by the supporters of privatization, had been profitable in the public sector, and the Central Electricity Generating Board earned profits of over £1 billion annually in the late 1980s. The privatization of the integrated electricity industry, Prime Minister Thatcher later conceded in her memoirs, was the “most technically and politically difficult” to date, and was also “the one which went furthest in combining transfer of a public utility to the private sector with radical restructuring” (Thatcher, 1993, p. 682). The core problems, which accounted for its relatively late inclusion in the privatization programme, included the scale of the flotation and the challenge of introducing competition into a traditional monopoly industry without prejudicing supply or technical efficiency (Helm, 2004, p. 125). The first nationalized energy industry to be privatized by the Conservatives was gas, which was sold to shareholders in 1986. British Gas initially had a private monopoly, and competition was only gradually introduced into the market in the 1990s. When the Conservatives came to privatize electricity, dissatisfaction within government with the gas privatization model meant that competition was introduced from the start by fragmenting the industry (Jupe, 2009a, p. 710).

The original objective of the Conservative Government, under its privatization programme, was to sell off the entire electricity industry, including all of the nuclear power stations. Power stations were all operated by the Central Electricity Generating Board, with 80 per cent of power generation based on fossil fuels and 20 per cent produced by nuclear power. Nuclear technology originated in World War II with the development of atomic

weapons, Thus, for most of its history, “nuclear power has been regarded as modern and technically advanced, as well as sinister and frightening”, and “beyond the powers of most politicians and civil servants to understand it” (Helm, 2004, p. 28). The result was that advice from scientists and the electricity industry “was often unchecked”, and nuclear power advocates enticed politicians with the prospect of energy “too cheap to measure” (*ibid.*, pp. 28, 16). The 1955 White Paper which initiated the development of Britain’s nuclear power programme contained financial estimates so simplistic that they ignored decommissioning costs (*ibid.*, p. 29). The White Paper set a precedent, and for many years governments and the electricity industry disguised the true cost of nuclear power by devices including: understating maintenance costs; understating fuel reprocessing costs; and understating decommissioning costs, for which no provision was made until 1976 (Henney, 1994, p. 135). A senior minister, Nigel Lawson, later admitted (1993, p. 169) that there had been a substantial understatement of “the likely true cost of decommissioning a nuclear power station at the end of its life”. Hence, despite Premier Thatcher’s aim to privatize the entire electricity industry, all the nuclear power plants were kept in the public sector to avoid creating uncertainties which would “frighten off investors” and give the privatized industry a “negative net worth” (*ibid.*).

The non-nuclear part of the industry was fragmented into many units as part of the radical privatization process in 1990 to 1991. The former Central Electricity Generation Board, was fragmented into four companies. The transmission system was vested in the National Grid Company, and the nuclear power plants kept in the public sector as Nuclear Electric. Two generating companies were established, PowerGen and National Power, and the 12 Area Electricity Boards were replaced by 12 Regional Electricity Companies. As in the case of most privatizations, assets were underpriced in order to encourage a successful sale, which meant that electricity shares were, on average, ten times oversubscribed. The two generating

companies soon made “efficiency” savings by increasing surplus value through redundancies and by switching from coal to gas as a power source. Profits increased from £2 billion in 1991/92 to £3.5 billion in 1995/96, as the number of employees fell over this period by 53 per cent (Newbery & Pollitt, 1997, p. 282). These results were replicated by the Regional Electricity Companies, which made combined profits of £10.5 billion during the period 1990/91 to 1997/98. Dividends totalling £6.1 billion were paid to shareholders over this period, while the workforce was reduced by 42 per cent (Domah & Pollitt, 2001, pp. 113, 139).

3.2. British Energy privatization

It was John Major, Margaret Thatcher’s supposedly “moderate” successor as Prime Minister, who was to take the principle of privatization beyond even the limits established by his predecessor and privatize nuclear power stations. The Major Government’s opinion poll ratings had collapsed to around 30 per cent after it was forced to remove sterling from the European exchange rate mechanism in October 1992, an act which destroyed the centrepiece of its economic policy. Major’s response, in an attempt to pursue the New Right Agenda, was to sell off even those industries, and industry sectors, which were loss-making and so formerly considered too politically sensitive for privatization. Thus, the remnants of the coal industry were privatized in 1994, followed in 1996 by two very controversial flotations: firstly, the rail infrastructure provider, Railtrack (Jupe, 2009b, pp. 180-185), and then British Energy. The last two privatizations had much in common. Both were only privatized after a large debt write-off; both organizations required substantial expenditure on maintenance, which was understated at privatization; and both ultimately had to be rescued with large amounts of public money.

British Energy was established in 1995 by the Major Government to take responsibility for operating the eight most modern nuclear power plants in Britain: seven Advanced Gas cooled Reactors and one Pressurized Water Reactor. The company was the largest electricity generator in the UK, with an annual turnover of over £2 billion, supplying nearly 20 per cent of the electricity used in England and Wales and half of that used in Scotland. The UK is also home to 11 Magnox nuclear reactors, some of which date back to the 1950s. The Magnox reactors were initially considered for privatization, but even the most zealous privatizers came to accept that their age and very high decommissioning costs meant that they should remain in the public sector. By contrast the eight newer reactors, argued the Government, could generate “sufficient revenues to cover their liabilities”, including decommissioning costs, and “therefore had a commercial value which could be realised” through privatization (National Audit Office (NAO), 1998, para. 4). As in all previous privatizations, a key motive for British Energy’s flotation was the desire to maximize short-term receipts. This privatization was quite uncommon, however, in that another explicit objective was to create “a robust private sector company with long-term viability” which “would be able to meet its nuclear liabilities, so that those liabilities would not in the future fall to the Government by default” (*ibid.*, para. 1.1).

There were problems in realizing the Major Government’s ambitious aims for British Energy’s privatization. A key issue was that of the annual operating losses for the previous five years before privatization of between £68 million and £564 million after adjustment for exceptional items (NAO, 1998, para. 3.21). Thus, the prospectus included optimistic projections about both electricity prices and nuclear liabilities and emphasized “British energy’s ability to generate strong cash flow” (*ibid.*), and the Major Government wrote off £800 million of public sector debt. Even with these sweeteners, the privatization raised only £2.1 billion compared to the initial estimates of receipts of between £2.6 and £3.3 billion, and

so the proceeds were trivial in terms of the government's budget deficit. Another ominous warning sign was that the flotation was adversely affected by events which included a temporary closure of two nuclear reactors at two separate power stations on 11 July 1996, and so when the share trading opened on 15 July the price fell immediately below the offer level of £2.03. The financial advisers handling the sale, Barclays de Zoete Wedd, had to buy up 11.5 per cent of the share issue in order to stabilize the price. The residual shares were then finally sold in December 1996 at a premium to the issue price. The sale proceeds were criticized by both the NAO and the Select Committee on Public Accounts. The NAO argued (1998, para. 18) that there were "advantages in selling shares in stages, in particular where the share price cannot be set with confidence". The Select Committee criticized the sale for "the disappointing level of proceeds" and emphasized that they did not cover "the cost of construction of just one of British Energy's assets, its newest power station Sizewell B" (House of Commons, 1999, para. 6), which had cost £2.7 billion and had only been completed in 1995.

Despite its obvious importance, the requirement that safety in nuclear power plants be maintained was conspicuous by its absence from the Major Government's five stated objectives for the privatization of British Energy. Apart from the two primary objectives of creating a robust company and maximizing the flotation's net proceeds, the three subsidiary objectives included: widening share ownership; obtaining a premium over the share offer price; and complying with the corporate governance recommendations of the Cadbury and Greenbury reports (NAO, 1998, Appendix 1). As with rail, concerns were strenuously raised about the safety implications of privatizing nuclear power stations, "principally", as the Trade and Industry Select Committee noted (House of Commons, 1998, para. 116), "that commercial pressures might discourage staff from shutting down plant for safety reasons, or encourage them to restart prematurely". The safety issue is examined in the following section

as part of the downsizing risk, one of three interrelated risks apparently transferred to British Energy by privatization. The discussion of downsizing risk is then followed by an analysis of market risk and nuclear liabilities risk.

4. Types of risk transfer

4.1. Downsizing risk

Barely five months after its privatization, British Energy announced that “efficiency” savings would be made under its ‘Vision 2000’ strategy by cutting 1,500 jobs, representing over 20 per cent of the company’s workforce. This was consistent with other privatizations, where the underlying method used to achieve “efficiency” was to increase surplus value through redundancies. Alongside the desire to increase surplus value through cost savings, there was also a serious ideological challenge to the role of engineers in utilities:

From the vantage point of the New Right, public utilities - and those within them - were an anathema and were in need of reform. Engineering as a body of knowledge became liable to critique from outwith and its professional jurisdiction was no longer easily enforceable In the aftermath of privatization there was a creeping, yet inexorable, managerialization ... The incursion of managerialism was far from neutral for it called into question the legitimacy of the professional engineering regime (Mueller & Carter, 2007, p. 189).

The result of creeping managerialism, in the newly privatized electricity companies, was that “professional engineers went from being the dominant group in the organization to, quite literally, being removed from the organization” (*ibid.*, p. 191). There are close parallels between the treatment of engineers in the privatized electricity industry and their treatment in the privatized rail industry. The senior management of Railtrack, the privatized rail infrastructure provider, set out to repudiate “much of the industry’s past”, making targeted

attacks on the existing railway culture and “encouraging redundancies amongst experienced workers, particularly engineers” (Jupe, 2009b, p. 182). Just as Railtrack had only two engineers on its board of directors, one of whom was commercial director with no responsibility for engineering matters, so British Energy had only one nuclear engineer on its board.

General safety concerns, and particular concerns about the reductions in the workforce, were examined two years after British Energy’s privatization by the Trade and Industry Select Committee. The Committee highlighted the requirement that, as a result of staff reductions and the increased use of contracting out, there should be “the fullest co-operation” and “the greatest possible transparency” between the Nuclear Installations Inspectorate – the regulatory body, part of the Health and Safety Executive (HSE), which is responsible for monitoring and licensing all nuclear power stations in Britain – and the company (House of Commons, 1998, para. 117). The review concluded that it was vital for public confidence “that nuclear safety should continue to be, and be seen to be, a dominant priority for those engaged in the civil nuclear industry” (*ibid.*, para. 119).

The Nuclear Installations Inspectorate granted new operating licences for the privatized nuclear reactors in 1996, but highlighted “issues” which would require to be examined in the future “as the experience of running” British Energy developed. These issues included “the level of resource in certain specialist areas” and the extent and nature of the use of contractors (Nuclear Installations Inspectorate, 1999, para. 5). Hence, a major post-privatization audit “focused on the outcome and implications of downsizing”, highlighting the fact that “downsizing and contractorization can have a detrimental effect on safety performance” (*ibid.*, paras. 15, 11). The wide-ranging audit identified many problems and concerns, and exposed the myopic nature of the ‘Vision 2000’ strategy. The report highlighted a fundamental flaw with the downsizing process, which was predicated on a reduction in

workload which had not transpired. Thus, labour shortages had to be remedied by “employing additional contract staff”, some of whom were former employees “recently released on voluntary severance terms”. The result was that in some “key safety areas” the workload of British Energy staff was increasing as they “now have to deal with the safety issues plus supervision of contract staff” (*ibid.*, para. 49). Further problems included: systems for work recording do not accurately reflect the number of hours being worked by staff; some staff are working significant amounts of overtime or unpaid excess hours to keep abreast of the workload; and excessive and persistent demands upon the staff carry the potential for degradation of the quality of the product (*ibid.*, para. 50).

The audit highlighted key problems with the management of the downsizing programme. These included the crucial lack of a “clear definition of the skills base” British Energy needed. Lacking such a definition, downsizing had been pursued “without knowing the overall limit - the minimum necessary skills base” (*ibid.*, para. 52). This had resulted in vital knowledge and expertise “specific to the nuclear industry being vested in individuals”, with the consequence that British Energy is “particularly vulnerable to loss of expertise”, and “cannot rely upon a policy that it will always be possible to buy in specialist nuclear expertise” (*ibid.*, para. 53). Further, despite the wide variety of relationships with contracting organizations, the company did not “have a formal policy setting down why, when and how to use contractor support” (*ibid.*, para. 54).

Following its very critical analysis, the audit report listed 103 wide-ranging recommendations relating to the company’s corporate management, its divisional management, the management of safety, and the use of contractors. In terms of the management of safety, several key recommendations were of paramount importance. British Energy was urged “to critically review the Management of Change process in order to ensure that it will incorporate the lessons learned from the change process thus far (including the

findings from this audit)”; to “*stop the planned reduction of in-house staff numbers until it can demonstrate the forward work prediction is reliable, and demonstrate that the new Management of Change procedure will not adversely affect the safety of nuclear plants* (emphasis added); and to “develop and promulgate a policy to ... guide decision making on why, when and how to utilize contractor resource” (*ibid.*, Appendix 3, recommendations 14-16).

The loss of experienced staff was especially significant for British Energy as its seven Advanced Gas cooled Reactors are a unique type of reactor with no direct comparator anywhere in the world (Taylor, 2007, p. 200). Despite this fundamental issue, and the very critical audit report, permanent employment at the company fell to a low point of under 5,000 by 2002, and it was only in 2003 that British Energy began to reverse the downsizing by hiring additional permanent staff. A typical problem related to the shortage of experienced staff occurred in May 2002, when one of the reactors at Toreness had to be closed because of problems with one of the electric pumps which pushed the coolant gas around. Nobody was left at British Energy who knew anything about the pumps, and so the company struggled to effect repairs while “losing around £250,000 a day in revenue” (*ibid.*, p. 143). This was but one example of the equipment and management failures exacerbated by, if not arising from, downsizing which led to both a loss of output and increased safety concerns. These failures contributed to the market risk faced by British Energy, which is examined in the following section.

4.2 Market risk

A primary objective of the privatization of British Energy was the creation of a “robust private sector company with long-term viability” (NAO, 1998, Appendix 1). The company appeared to be profitable in its early years, and its share price increased to a peak of £7.33 in

January 1999. In a very controversial move, the company then rewarded shareholders in October 1999 with a special dividend payment of £432 million, equivalent to 60 pence per share. In behaving this way, the company was influenced by the theory, dominant since the 1980s, that maximizing shareholder value should be “the primary, even exclusive, goal” for each corporation (McSweeney, 2009, p. 839). The theory is predicated on the belief that “as financial markets always accurately value corporations, then focusing the activities of corporations towards maximizing valuation by financial markets is the most effective form of ‘corporate governance’” (*ibid.*, p. 840). Companies aimed to produce ‘free’ cash through activities such as downsizing, cash which could then be returned to shareholders; for, according to Jensen (1989, p. 9), “free cash flow must be distributed to shareholders” if a company is to operate efficiently. The key problem with the theory is that identifying ‘free’ cash “requires unavailable knowledge about the future” (McSweeney, 2009, p. 840). The “unavailable knowledge” in British Energy’s case was the trajectory of electricity prices. Both shareholders and directors, however, had available knowledge which indicated that British Energy was in a vulnerable financial position. The bulk of a nuclear power plant’s operating costs are fixed, in the sense that they will be incurred even if the plant is not operating. This is partly “due to the need to operate and maintain a nuclear plant’s safety systems even if the unit is not generating electricity” (Hewlett, 2005, p. 2294). In addition, British Energy had contracts with British Nuclear Fuels, a government-owned business, for nuclear fuel storage and reprocessing. These were largely fixed price, index linked contracts costing around £400 million per year. Thirdly, the company was meant to make payments to cover nuclear liabilities, set initially at £16 million per year, to a Nuclear Decommissioning Fund, which was established by the Government at privatization. Thus, British Energy was quite different from other utilities, such as electricity distribution and water companies, which

during the 1990s were regarded as cash machines “with a variety of share buybacks, special dividends and enhanced dividends” (Taylor, 2007, p. 108).

Given its substantial fixed costs, British Energy was sensitive both to operating difficulties in its power stations and to electricity price changes. British Energy’s share price began to fall in 2000 as operating difficulties exacerbated by downsizing developed. There were failures in a wide range of equipment, including: turbine-generators; boilers; pumps; and coolant systems. The company ran into major difficulties in 2002 when it was hit by further problems stemming from the impact of the development of competition and new trading arrangements in the wholesale electricity market. Competition had been introduced into the retail electricity market in the 1990s under the leadership of Professor Littlechild, a leading free market economist and “theoretician of privatization”, who headed the Office of Electricity Regulation (Offer) from 1989 to 1998 and “assumed a leadership role for the industry” (Mueller & Carter, 2007, p. 188). Electricity supply competition was introduced initially for companies and then, from March 1998, introduced progressively for domestic customers. Following a 1998 report from Offer on electricity trading, the new Labour Government, which was keen to demonstrate its free market credentials, accepted the need to introduce controversial new electricity trading arrangements (NETA) into the power generation market in order to lower wholesale prices. NETA was introduced in March 2001, creating a bi-lateral wholesale electricity market where generating companies had to compete to find buyers for electricity. Generators were now paid the price agreed with buyers, and no longer received payments from the National Grid for making capacity available in order to ensure security of supply. Once a generator has secured a contract it has to provide sufficient power to meet its contractual position or pay a penalty charge, reflecting the costs of replacing the lost capacity at market prices.

The combination of the introduction of NETA, and increased competition stemming from the entry of gas-based independent power producers, led to a significant fall in wholesale electricity prices. Incredibly, the Department of Trade and Industry “did not specifically evaluate the effect on British Energy” of these “major changes in the electricity industry” (NAO, 2004, para. 7). The Department estimated that price reductions of 10 to 15 per cent were likely, but “in the event prices reached their nadir at levels some 40 per cent lower than in the previous market” (*ibid.*). The Department’s failure to evaluate the impact on British Energy of the changes in the electricity market is even more striking, given that the company was going to be adversely affected not only by price reductions but also by the nature of the new contracting process introduced under NETA. Of all the companies in the electricity market, British Energy was “the most exposed to lower power prices” because of its high fixed costs (Taylor, 2007, p. 114) and technical limitations. Nuclear power plants had technical limitations which meant that they were “among the most inflexible generation stations”, and some proved unreliable and so susceptible to penalty charges when electricity was not supplied (NAO, 2004, para. 2.7). More flexible non-nuclear power stations were better placed to “take advantage of short-term changes in prices resulting from short-term changes in generation availability or demand” (*ibid.*). As Helm argued (2004, p. 129), “nuclear power and competitive markets do not easily mix”, while long-term contracts which benefit nuclear power stations “do not sit easily with competitive generation or supply markets”.

Beset by a major reduction in electricity prices, and operating problems at some nuclear plants, British Energy did not manage to provide an adequate hedge through diversification by purchasing electricity supply companies. Between 1998 and 2000 British Energy made a number of unsuccessful offers for electricity supply companies, losing out on two occasions to the company EDF. It managed an apparently successful purchase of the Eggborough coal-

based power station in 1999 in order to supplement its nuclear generating capacity. The purchase price of £636 million proved to be inflated, however, and so British Energy was then obliged to write off £300 million two years later. Thus, in 1999 the company paid out over £1 billion in a combination of a special dividend and an overpriced acquisition, neither of which contributed positively to its long-term viability. As the Public Accounts Committee argued (House of Commons, 2004, para. 9), the “inability to achieve vertical integration significantly contributed to British Energy’s eventual difficulties”. The market risk which the company was exposed to had serious consequences for British Energy’s ability to meet its nuclear liabilities, a key issue examined in the following section.

4.3 Nuclear liabilities risk

The privatization of British Energy was meant to create of a “robust” company which could “meet its nuclear liabilities” (NAO, 1998, para. 7). The Panglossian nature of these hopes was soon exposed after privatization when very prescient concerns were expressed by two major reports. Given that the liabilities are large, and may arise in the long-term, argued the NAO (1998, paras. 7, 10), “it cannot be excluded that the company might at some future date encounter difficulties in meeting these costs ... To the extent that British Energy ... fails to meet its future commitments, these fall to future Governments”. In the following year, The Select Committee on Public Accounts reinforced these concerns, drawing attention to the “uncertainties” relating to the ostensible transfer of nuclear liabilities to the private sector. In particular, this Committee raised concerns:

that there remains uncertainty about the size of nuclear liabilities in the future. This uncertainty arises because the technologies for dealing with longer-term decommissioning are untried and because there is currently no costed strategy for the disposal of certain kinds of nuclear waste. We note the Department’s recognition that there are no 100 per cent guarantees or room for complacency in the monitoring and

managing of these risks in the future and we recommend that they should monitor the progress of the nuclear industry in developing its technologies for undertaking these tasks (House of Commons, 1999, para. 6).

The respective emphasis of the NAO and the Select Committee on “difficulties” and “uncertainties” relating to British Energy’s nuclear liabilities proved to be prescient. The result of major price reductions in the wholesale electricity market, combined with operating problems at several nuclear power plants, was that British Energy’s pre-tax profits fell from £241 million in 1999/00 to £10 million in 2000/01 (British Energy plc, 2000/01). The company’s net cash inflow peaked at just under £500 million in 1998/99, and then fell substantially in the next two years (Taylor, 2007, p. 139). Despite its declining cash, the company maintained a final dividend of £32 million in 2002 (British Energy plc, 2002/03). By the end of August 2002, having cancelled a proposed bond issue, the company’s level of available cash had fallen to £78 million (NAO, 2006, para. 1.3). British Energy faced the prospect of being placed in administration, as its share price fell to five pence, and so was obliged to seek state support in September.

Investigations of the rescue of British Energy make it clear that, even under a Labour Government, the state’s predominant ideological perspective is the neoliberal, non-interventionist paradigm. As the NAO report noted (2006, para. 3), “normally, when private companies get into difficulty ... policy is not to intervene on the argument that United Kingdom productivity goes up if relatively inefficient firms are allowed to close and this process should not be inhibited by government action”. In this case, however, there were two very significant concerns which determined the Government’s unavoidable response: the company’s significant contribution of one fifth of the electricity supply; and concerns should the safety of nuclear power stations be threatened. The Blair Government could have renationalized British Energy in order to remove uncertainty about its future and to secure the

electricity supply but, as in the case of Railtrack (Jupe, 2009a), chose not to. Its preference instead was to adopt a complex “third way” approach which relied upon large public subsidy to retain the company in the private sector. The Government initially provided a short-term loan of £650 million in 2002, but ultimately was obliged to support the company through a rescue package with an estimated net cost in 2004 of £2.8 billion (NAO, 2006, Appendix 2). The need for intervention is starkly demonstrated by the fact that British Energy’s pre-tax loss increased nearly nine-fold from £493 million in 2001/02 to £4.3 billion in 2002/03, and its balance sheet position moved from net assets of £2.29 billion to net liabilities of £3.38 billion over the same period, largely as a result of an exceptional fixed asset write-down of £3.7 billion (British Energy plc, 2002/03).

The need to rescue British Energy demonstrated the fundamental failure of privatization to create a company sufficiently “robust” to meet its nuclear liabilities. The Department of Trade and Industry initially assumed direct responsibility for spent fuel liabilities, estimated at £2,573 million, and agreed to underwrite a public sector Nuclear Liabilities Fund with estimated decommissioning and waste liabilities of £2,714 million (NAO, 2006, para. 1.18). The estimated total of £5.3 billion in nuclear liabilities on a discounted basis represented a significant upward revision from the £3.7 billion shown in British Energy’s accounts at privatization (NAO, 1998, para. 1.8). All nuclear liabilities for British Energy and the non-privatized Magnox reactors were later transferred to a new public body, the Nuclear Decommissioning Authority, established in 2005.

A complex capital restructuring was carried out and British Energy was re-listed on the stock market in 2005. The Government claimed to be sharing the cost of restructuring between taxpayers, shareholders and creditors. Shareholders agreed to exchange 100 per cent of their holdings in the old company for a 2.5 per cent stake in the new company. The main commercial creditors agreed to relinquish their original debt claims against British Energy in

exchange for £425 million of new bonds and 97.5 per cent of the issued shares in the new company. At the same time, the company was required to make annual contributions of a minimum of £20 million to the Nuclear Liabilities Fund, alongside 65 per cent of its available cash after tax and interest costs, a payment called the cash sweep. The first cash sweep payment of £105 million, relating to the 2005/06 financial year, was paid in September 2006. The Government reserved the right to convert its stake in British Energy through the cash sweep into company shares which it could sell. By 2007, the substantial increases in the wholesale price of electricity, linked to the increased price of imported gas and oil, had helped restore the company to profitability, and it paid the first dividend since the rescue operation. Thus, a nominally ‘private’ sector company was given the opportunity to return to sufficient profitability to enable it to resume dividend payments through the aid of government subsidy and the transfer of its nuclear liabilities to the public sector.

The extent of the obligations transferred to the public sector after the restructuring prompted the Committee of Public Accounts to publish two critical follow-ups to the earlier report in 1999. In its 2004 report, the Committee was very critical of the treatment of British Energy’s residual nuclear liabilities:

Despite retaining, under international treaty obligations, the large residual liabilities associated with nuclear power (emphasis added), the Department of Trade and Industry treated British Energy after privatization as just another company. But the Government’s formal residual liability implied that British Energy was in a different situation from any other company and the Department need to behave as a prudent business would in managing residual risk. The Department failed, however, to put in place any proper risk management arrangements to protect the taxpayer from these risks as set out in our predecessors’ Report (House of Commons, 2004, p. 4).

The Committee was also very critical of the Department’s acceptance of the company’s pursuit of shareholder value creation and of its lax attitude towards the taxpayer’s potential exposure. As the report noted, with studied understatement:

The Department placed too much emphasis on British Energy's dividend payments, particularly the £432 million special dividend, as an indicator of its financial position. Dividend payments are not necessarily a good indicator of a company's financial health and departments should not rely on them

The Department did not have access to definitive information and in the critical two years to early 2002, it was left to British Energy to bring matters to its attention. In future where departments are exposed to potential liabilities, they should equip themselves with fights of access to company information similar to those obtained by financial institutions in a comparable position.

The Department failed to establish a credible overview of British Energy's deteriorating financial position, and did little more than gather information. Its inaction was compounded by split responsibilities for monitoring British Energy and the design of the New Electricity Trading Arrangements. In designing and coordinating energy policy it failed to consider the taxpayer's potential exposure (*ibid.*).

In its 2007 report, the Committee of Public Accounts was critical of the restructuring operation. It contrasted the uncertain liabilities borne by the taxpayer with the gains made by the creditors:

As a result of the restructuring of British Energy, the taxpayer has been left to underwrite a large and uncertain liability, recently valued at £5.3 billion. The company assumed full responsibility for its nuclear power stations, including the associated nuclear liabilities, on privatisation in 1996. In reality, the Government's international obligations always meant that responsibility would fall on the taxpayer if the company was unable to meet them

The company's creditors would have got very little on liquidation, but on restructuring they received bonds worth £425 million plus 97.5 per cent of the issued shares in the restructured company, assets which were worth £3.9 billion by February 2006. They have however assumed no responsibility for the nuclear liabilities. For electricity users and taxpayers, the balance of risk and reward is less favourable

Without direct responsibility for meeting its liabilities, the company may now lack the incentive to reduce the liabilities falling to the Nuclear Liabilities Fund. The department, working with the Nuclear Decommissioning Authority, put into place adequate arrangements to confirm that the company carries out its operations efficiently, reducing the eventual liabilities to be met by the Nuclear Liabilities Fund wherever possible (House of Commons, 2007, pp. 5-6).

The Government's response to these criticisms was to seek another market-based solution through a sale of British Energy. In 2007, it converted part of the cash sweep into 450 million

shares which were placed with institutional investors at £5.20, raising £2.34 billion for the Nuclear Liabilities Fund. In 2008, Lake Acquisitions Limited, a wholly-owned subsidiary of the state-owned company EDF, which generates nearly 80 per cent of France's electricity from its fleet of 58 nuclear power stations, agreed to purchase British Energy. The offer price of £7.74 per share represented a 35 per cent premium above the closing share price of £5.71 on 14 March. The Government converted the remaining 35 per cent of the cash sweep into shares, thus raising £4.4 billion for the Nuclear Liabilities Fund out of the total share offer of £12.5 billion. The most significant beneficiaries of the sale were the creditors who received £4.8 billion. This sum represented a spectacular gain of £4 billion, given that the value of their loans before the rescue of British Energy in September 2002 was £834 million (NAO, 2006, para. 12). The offer document made clear that, while British Energy's annual contributions to the Nuclear Liabilities Fund would continue, the Government would still be responsible for any nuclear liabilities "to the extent that they exceed the assets" of the Fund (Lake Acquisitions Limited, 2008, para. 2.5.2).

The conversion of the cash sweep into shares, and their successful sale, appeared to change the exposure of the taxpayer through the rescue of British Energy from an estimated net cost of £2.8 billion in 2004 to a net benefit of £2.8 billion in 2008, as shown in Table 1.

TABLE 1 ABOUT HERE

This optimistic projection is heavily dependent, however, on two factors. These are the success of the investments in the Nuclear Liabilities Fund, and the estimates of these liabilities. The Committee of Public Accounts (2007, p. 5) emphasized that the "most recent estimate of the liabilities underwritten by the taxpayer resulted in a 29 per cent increase on the previous figure". Further, it argued that (*ibid.*, para. 5) "there remains considerable

uncertainty over the scale of the future liabilities, reflecting the many technical uncertainties still associated, for example, with decommissioning”. This uncertainty was confirmed by an NAO report which highlighted the fact that the estimate of the total decommissioning costs for all of Britain’s nuclear power stations had reached £73 billion on an undiscounted basis in 2007, an increase of £17 billion in just four years since the previous estimate in 2003 (2007, p. 7).

5. Discussion and conclusions

The transfer of risk to the private sector has been a fundamental justification not only for the privatization of British Energy, but also for various PFI/PPP schemes promoted under the banner of New Public Management. This paper has demonstrated how the privatization of British Energy led to an apparent transfer of three inter-related risks to the private sector. In attempting to pursue shareholder value, the company faced downsizing risk, market risk which threatened its long-term survival, and the financing of its nuclear liabilities. The Labour Government’s rescue of British Energy highlighted the essentially fraudulent nature of the key objective of the privatization – the transfer of nuclear liabilities to a “robust” company in the private sector. Despite the privatization, the large residual nuclear liabilities, under international treaty obligations, always remained with government.

The acquisition of British Energy by EDF was regarded by the Government as a successful outcome, particularly as EDF intends to build four new power plants on existing sites in line with Labour’s conversion to nuclear power on environmental grounds. The Government is still responsible for the company’s nuclear liabilities, however, to the extent that they may exceed the assets of the Nuclear Liabilities Fund. Further, the acquisition has

exacerbated the oligopolistic nature of the electricity generation market. EDF's dominant share of the total market is now around 27 per cent, and the share of market of the 'Big 6' vertically integrated firms has increased from 55 per cent to 73 per cent (House of Commons, 2008, para. 43). Four of the 'Big 6' are now major foreign energy companies, based in France, Germany and Spain, controlling 56 per cent of the market. Private ownership has "recreated the sorts of concentration that the process of electricity privatization and subsequent legislation in the gas sector was designed to reverse" (Helm, 2004, p. 405). Electricity prices have risen substantially in Britain in recent years, and in 2008 were estimated to be around 30 per cent higher than in France and Germany (House of Commons, 2008, para. 2).

The acquisition of British Energy by EDF did not negate the fraudulent nature of the risk transfer argument employed to justify the privatization, but New Labour still pursued the risk transfer argument in its "third way" approach to public services. Thus, ignoring prophetic warnings from the Transport Select Committee amongst others, in 2003 the Government applied the fragmentation and privatization principle, which had failed so spectacularly with the railways, to the London Underground tube system. The key justification for this controversial PPP scheme was that there would be a significant transfer of financial risk to the private sector. Despite the increased subsidy available to the companies responsible for infrastructure maintenance and renewal, Metronet, the consortium responsible for nine out of 12 tube lines, collapsed into administration in 2007. The Government was obliged to pay £2 billion to settle debts and administration expenses as Metronet was brought back into the public sector in 2008. Metronet's collapse exposed how little risk had been transferred to the private sector. Most of the consortium's capital came from nearly £2 billion of debt finance, 95 per cent of which was guaranteed by the public sector (NAO, 2009a, para. 12). In Metronet's case, as with British Energy, risk transfer was symbolic rather than real.

The concept of risk transfer to the private sector, which was the justification for British Energy privatization and the restructuring of the public sector through the development of PFI/PPP schemes, was derived from theories which “denied the possibility of market failure, and specifically financial market failure” (McSweeney, 2009, p. 836). The priority in Anglo-American countries was to shift “the balance of governmental and corporate policy towards capital, and finance capital in particular” (*ibid.*, p. 844). The consequence of this approach was the financial crisis which began in 2007, precipitating a global credit crisis and an economic downturn. Governments in Britain and around the world had to transfer risk from the financial system to the state. The Labour Government was forced to drop its former aversion to nationalization, and in 2008 Northern Rock bank was nationalized in defence of the financial system. The total support for the banking system in Britain has now reached the unprecedented level of £850 billion (NAO, 2009b, para. 4) following the financial risk transfer to the state. The vital role of the state in risk management has never been clearer.

Table 1

Estimated costs and benefits to the taxpayer of rescuing British Energy

Cost and benefit items	Valuation dates		
	March 2004 £m	February 2006 £m	September 2008 £m
Estimated spent fuel liabilities assumed by Government	(2,369)	(2,573)	(2,168)
Estimated spent fuel liabilities assumed by Nuclear Liabilities Fund (NLF)	(610)	(350)	(363)
Estimated decommissioning liabilities assumed by NLF	<u>(905)</u>	<u>(2,364)</u>	<u>(2,981)</u>
Total estimated cost of nuclear liabilities	(3,884)	(5,287)	(5,512)
Less estimated contributions from British Energy:			
Contributions and investments	1,914	1,583	1,583
Value of cash sweep when converted into shares	<u>N/A</u>	<u>6,170</u>	<u>6,740</u>
Estimated net benefit/(cost) of nuclear liabilities	(1,970)	2,466	2,811
Estimated net benefit/(cost) to British Energy from contract renegotiation with British Nuclear Fuels	(859)	262	262
Department of Trade and Industry administrative costs net of British Energy contributions	(15)	(15)	(15)
Total estimated net benefit/(cost) to taxpayer	(2,844)	2,713	3,058

Sources: NAO, 2006, Appendix 2; British Energy Group plc Annual Report and Accounts 2007/08; Lake Acquisitions Limited, 2008.

References

- Alchian, A.A. (1965). Some economics of property rights. *Il Politico*, 30, 816-829.
- Bishop, M. & Kay, J. (1988). *Does Privatisation Work? Lessons from the UK*. London: Centre for Business Strategy, London Business School.
- Broadbent, J. & Guthrie, J. (2008). Public sector to public services: 20 years of “contextual” accounting research. *Acc Aud Acc J*, 21(2), 129-169.
- British Energy plc (2000/01). *Annual Report & Accounts*. East Kilbride, Scotland.
- British Energy plc (2002/03). *Annual Report & Accounts*. East Kilbride, Scotland.
- Buchanan, J.M. (1972). *Theory of Public Choice*. Ann Arbor: University of Michigan Press.
- Domah, P.D. & Pollitt, M.G. (2001). The restructuring and privatisation of the regional electricity companies in England and Wales: A social cost-benefit analysis. *Fisc St*, 22(1), 107-146.
- Ezzamel, M., Wilmott, H., & Worthington, F. (2008). Manufacturing shareholder value: The role of accounting in organizational transformation. *Acc Org Soc*, 33(2-3), 107-140.
- Flemming, J. & Mayer, C. (1997). The assessment: Public-sector investment. *Oxf Rev Econ Pol*, 13(4), 1-11.
- Froud, J. (2003). The Private Finance Initiative: risk, uncertainty and the state. *Acc Org Soc*, 28(6), 567-589.
- Furubotn, E. G. & Pejovich, S. (1974). *Economics of property rights*. Cambridge, Mass: Ballinger.

Giddens, A. (1998). *The Third Way – The renewal of Social Democracy*. Cambridge: Polity Press.

Goodman, J.B. & Loveman, G.W. (1991). Does privatisation serve the public interest? *Harv Bus Rev*, 69(9), 26-38.

Helm, D. (2004). *Energy, The State and the Market: British Energy Policy since 1979*. (2nd ed.). Oxford: Oxford University Press.

Henney, A. (1994). *A Study of the Privatisation of the Electricity Supply Industry in England and Wales*. London: Energy Economic Engineering.

Hewlett, J. G. (2005). De-regulated electric power markets and operating nuclear power plants: the case of British Energy. *En Pol*, 33(18), 2293-2297.

House of Commons (1998), Select Committee on Trade and Industry, *Energy Policy Vol. I, HC 471-I*, London: HMSO.

House of Commons (1999), Select Committee on Public Accounts, *The Sale of British Energy, HC 242*, London: HMSO.

House of Commons (2004), Committee of Public Accounts, *Risk management: the nuclear liabilities of British Energy plc, HC 354*, London: The Stationery Office Limited.

House of Commons (2007), Committee of Public Accounts, *The Restructuring of British Energy, HC 892*, London: The Stationery Office Limited.

House of Commons (2008), Business and Enterprise Committee, *Energy prices, fuel poverty and ofgem Vol. I, HC 293-I*, London: The Stationery Office Limited.

Jupe, R. (2009a). New Labour, Network Rail and the third way. *Acc Aud Acc J*, 22(5), 709-735.

Jupe, R. (2009b). A “fresh start” or the “worst of all worlds”? A critical financial analysis of the performance and regulation of Network Rail in Britain’s privatised railway system. *Crit Perspect Acc*, 20(2), 175-204.

Lake Acquisitions Limited (2008). *Recommended Offers for British Energy*. London.

Lapsley, I. (2008). The NPM Agenda: Back to the future. *Finan Acc Manage*, 24(1), 77-96.

Lawson, N. (1993). *The View from No. 11: Memoirs of a Tory Radical*. London: Corgi Books.

Letza, S.R. & Smallman, C. (2001). In pure water there is a pleasure begrudged by none: On ownership, accountability and control in a privatized utility. *Crit Perspect Acc* 12(1), 65-85.

Letza, S.R., Smallman, C, & Sun, X. Reframing privatisation: Deconstructing the myth of efficiency. *Pol Sci*, 37(2), 159-184.

McSweeney, B. (2009). The roles of financial asset market failure denial and the economic crisis: Reflections on accounting and financial theories and practices. *Acc Org Soc*, 34(6-7), 835-848.

Mueller, F. & Carter, C. (2007). ‘We are all managers now’: Managerialism and professional engineering in UK electricity utilities. *Acc Org Soc*, 32(1-2), 181-195.

National Audit Office (1998). *The Sale of British Energy, HC 694*. London: HMSO.

National Audit Office (2004). *Risk Management: The Nuclear Liabilities of British Energy plc, HC 264*. London: The Stationery Office Limited.

National Audit Office (2006). *The restructuring of British Energy, HC 943*. London: The Stationery Office Limited.

National Audit Office (2008). *The Nuclear Decommissioning Authority: Taking forward decommissioning, HC 238*. London: The Stationery Office Limited.

National Audit Office (2009a). *Maintaining financial stability across the United Kingdom's banking system, HC 91*. London: The Stationery Office Limited.

National Audit Office (2009b). *Department of Transport: The failure of Metronet, HC 512*. London: The Stationery Office Limited.

Newbery, D.M. & Pollitt, M.G. (1997). The restructuring and privatisation of Britain's CEGB – was it worth it? *J Ind Econ*, XLV(3), 269-303.

Niskanen, W. A. (1971). *Bureaucracy and representative government*. New York: Aldine-Atherton.

Niskanen, W.A. (1973). *Bureaucracy: Servant or Master?* London: Institute of Economic Affairs.

Nuclear Installations Inspectorate (1999). *An audit by the HSE on British Energy Generation Limited*. London: Health and Safety Executive.

Ogden, S.G. (1995). Transforming frameworks of accountability: The case of water privatisation. *Acc Org Soc*, 20(2-3), 193-218.

Ogden, S.G. (1997). Accounting for organizational performance: The construction of the customer in the privatized water industry. *Acc Org Soc*, 22(6), 529-556.

Shaoul, J. (1997). A critical financial analysis of the performance of privatised industries: The case of the water industry in England and Wales. *Crit Perspect Acc*, 8(5), 479-505.

Shaoul, J. (2005). A critical financial analysis of the Private Finance Initiative: selecting a financing method or allocating economic wealth? *Crit Perspect Acc*, 16(4), 441-471.

Taylor, S. (2007). *Privatisation and Financial Collapse in the Nuclear Industry: The origins and causes of the British Energy crisis of 2002*. London: Routledge.

Thatcher, M. (1993). *The Downing Street Years*. London: HarperCollins.

Tullock, G., Seldon, A. & Grady, G. (2000). *Government, Whose Obedient Servant?: A Primer in Public Choice*. London: Institute of Economic Affairs.

Vass, P. (1992). Establishing a conceptual framework for regulated industries' accounting and accountability. *Finan Acc Manage*, 8(4), 299-315.

Vickers, J. & Wright, V. (1989). *The Politics of Industrial Privatisation in Western Europe*. London: Weidenfield & Nicholson.

University of Kent