Evolutionary approaches to privatisation

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Abstract

This opening chapter of the symposium takes a broad perspective on the question of privatisation. The other papers provide detailed discussions of particular sectors. There is considerable scope for further privatisation, with the particular aim of reducing sharply public sector claims on national output.

Survey evidence indicates considerable opposition to further privatisations, particularly in the form of dividend-paying joint stock companies. The paper considers to what extent surveys have value, compared to the economic concept of stable, revealed preferences, and the potentially endogeneity of preferences as discussed by Hayek (1949). Consideration is also given to the implications of making concessions to survey opinion by carrying out privatisations under alternative corporate structures.

Key words

Government current expenditure; endogenous preferences; networks; corporate structure

JEL classification

D11, D21, D85

1. Introduction

Lady Thatcher's privatisation programme is widely recognised as being one of the seminal episodes in Western politics in the second half of the 20th century. Initially, during the 1979-83 government, all the privatisations were of companies operating in competitive markets which, for one reason or another, had come to be owned by the state. British Aerospace is an example. In the second period of office, 1983-87, public utilities which were effectively monopolies were sold off, British Telecom, British Gas, British Airports Authority, and in 1989 the water companies.

The policy was adopted widely across the Western world. The exact form has varied, both within and across countries. But what only a few decades ago was seen as a policy of swivelled-eyed free market fanatics is now regarded as mainstream. In general, the privatisation of industries such as the above has been successful. Customer service has been improved, efficiency has increased, and much more capital spending has been carried out than would have been feasible under the old, politicised structure of nationalisation. Advocacy of returning such industries into public ownership is now confined to a hard left minority.

These privatisations have reduced dramatically the share of employment accounted for by nationalised industries. But the state continues to employ a substantial proportion of total employment, and the next phase of privatisation involves realising similar gains in efficiency and quality of service to those already obtained in the former nationalised industries.

However, support amongst the electorate for further privatisations is much more mixed, and indeed there is often active hostility to the idea of, for example, putting the provision of health services under the discipline of the market.

Section 2 reviews the size of the sector to which further privatisation could be applied and its development over time. Section 3 considers some of the reasons for opposition to the extension of the concept into this sector, and Section 4 discusses an evolutionary approach to the question. Finally, section 5 considers corporate structure from an evolutionary perspective.

2. The scope for further privatisation

The claims made by the state on national resources have risen substantially over time. The familiar figure which is often quoted of the percentage share of GDP accounted for by public expenditure is, in most European countries, in the high 30s to the high 40s. This figure has real meaning, because the economy has to be able to generate sufficient taxation in order to be able to pay for it. However, the numerator, the total value of public spending, includes the large amounts spent on benefits. In the denominator, GDP, these are netted out, since they represent not value added, but transfers of income between different groups of the population.

The direct claim of the public sector on value added is measured by a variable called, in the jargon of national accounting, public authorities' current expenditure. This is, effectively, the wage and salary bill of those employed in the public sector.

An important point to note is that, throughout the West, there is a dramatic difference in the percentage share of this factor in GDP in the pre- and post-World War Two periods. In the late 19th century, public sector claims on resources in the UK, for example, averaged just over 5 per cent of GDP. In the inter-war period, the average was just over 10 per cent[1]. In the early 21st century, this figure has been over 20 per cent. Figure 1 illustrates this for the UK.

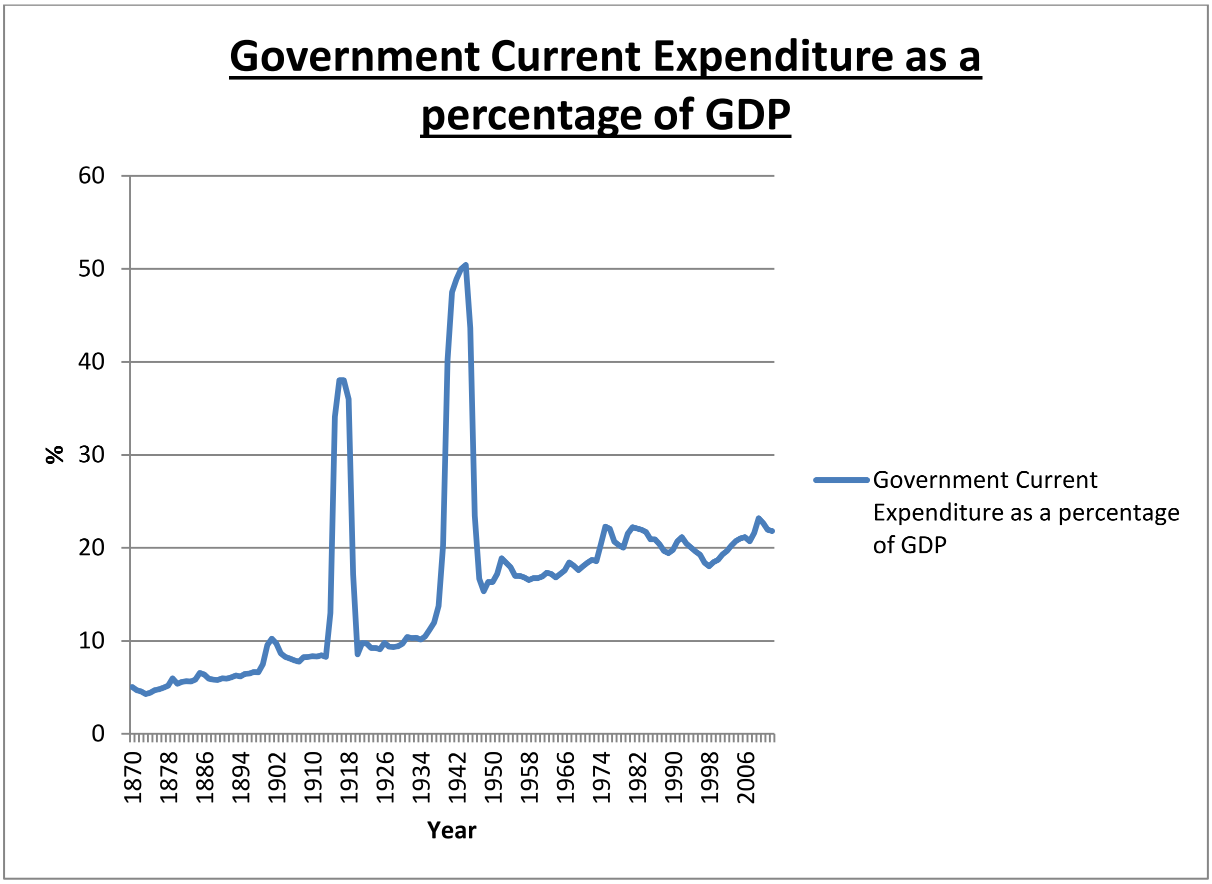

Figure 1 *Public authorities' current expenditure as a percentage of GDP, current prices, 1870-2012. The two major blips are of course the periods of the World Wars*

It is therefore entirely feasible for the Western market-oriented economies to operate with a much lower percentage of services provided by the state. Until the Second World War, this is what actually happened. Of course, the absolute level of provision was much lower than it is now, simply because the economies were then at much lower levels of real per capita GDP.

A proportion of the increase appears to be warranted in the following sense. A distinguishing feature of societies is that as they get richer, the demand for services such as health and education grows more quickly than the economy as a whole. There is no immutable law requiring this expansion to be provided by the state. But whether it had

[1] Data for 1870- 1948 is from C.H.Feinstein, *National Income, Expenditure and Output in the UK*, Cambridge University Press, 1972. Office for National Statistics is the source of the post-war data

taken place under public or private sector auspices, a large rise in the proportion of GDP spent on education would have happened regardless. It is worth noting, however, that there is evidence which suggests that in, for example, the field of education it was provided more effectively before World War Two, as the work of West shows (see, for example, selections of his papers in Tooley and Stanfield, 2003).

Without in any way wishing to provide an exhaustive list of similar examples, it is worth considering briefly the question of the elderly. The cost of old age is becoming more marked. Old people live longer and they cost more to keep. This is well known. There are, however, two implications of this which are conceptually quite distinct. First, the cost of pension provision has risen sharply. However, this is financed by transfers of income – from taxpayers to pensioners, for example – which affects the *total* amount of public spending and hence the size of the tax burden, but does not alter the claims on resources. Second, there is the increased technical ability to provide health care for the old plus additional bureaucratic costs involved in administering these provisions. These latter costs *are* an additional claim on resources.

During the post-war period, for a couple of decades, spending as a proportion of GDP remained broadly flat, but there was a sharp rise across most of the West in the 1960s and 1970s. Figure 2 shows the average percentage share in France, Germany and the UK since 1960.

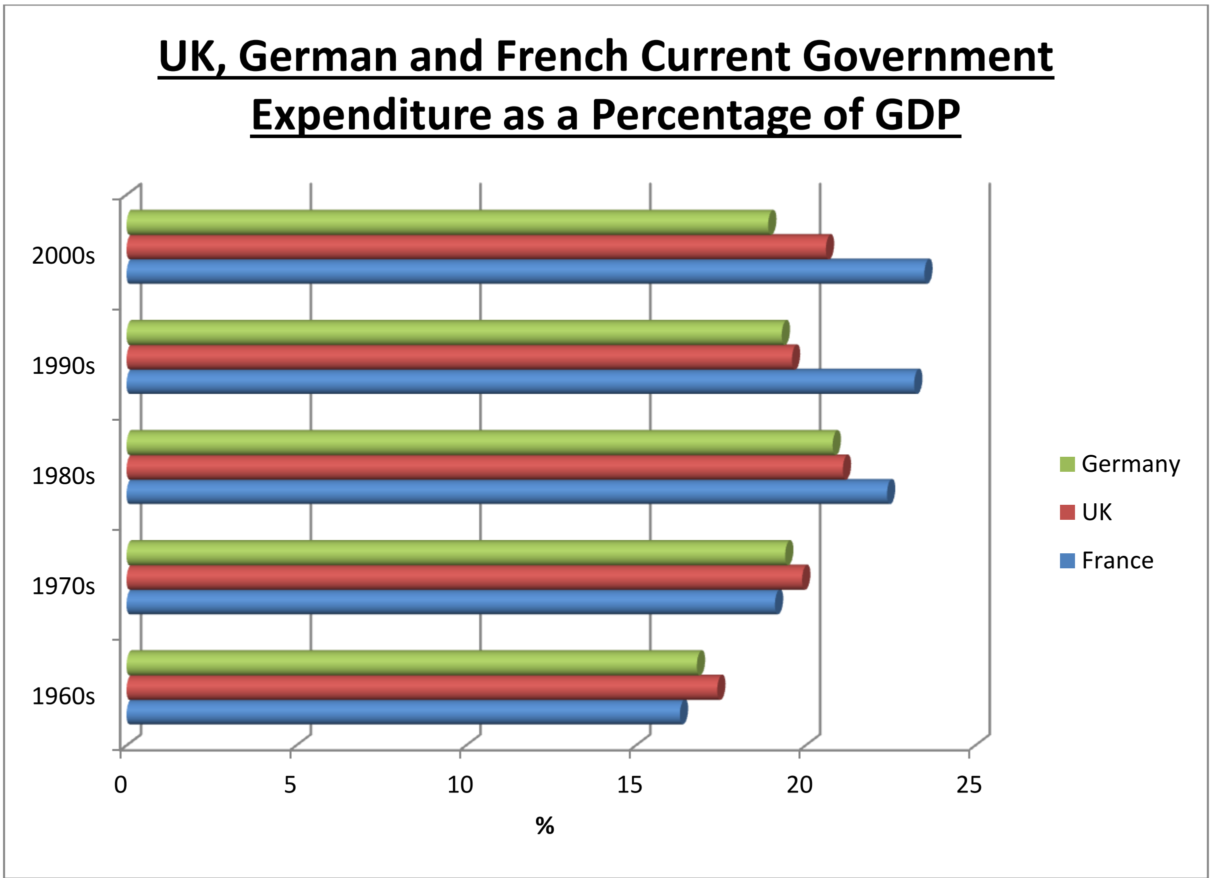

Figure 2 *Public authorities' current expenditure as a percentage of GDP, current prices, averages for each decade*

Attempts were made to control the rise in the 1980s and 1990s, and these were successful in both Germany and the UK, although in the latter country there was a further increase under Gordon Brown. The increase over the past forty-odd years coincides with the rise in a new, or at least vastly expanded, set of middle class professions. So, for example, in the UK we have a greatly expanded Health and Safety Executive, long after the major killing jobs - mines, ships, heavy industry- have all but disappeared. Similar arguments apply to Social Services

It is this group which is the target for the next phase of privatisation. The main purpose is to reduce the rent-seeking bureaucracy which has developed in the public sector.

Privatisation does not of course mean that less is spent in the privatised activity than would otherwise have been the case. Indeed, in the case of many of the ex-nationalised industries, considerably more has been spent on capital investment. An easy thing for a government minister of any party to do was to refuse or reduce a proposed price increase by a nationalised industry, and thereby deprive the sector of funds for investment. The essays in Stanfield (2012) describe international experiences in education.

Privatisation has meant in practice that efficiency improves and the service to the consumer gets better. In the UK, for example, some 7 per cent of total employment used to be in those industries in public ownership which have now been privatised. The relevant percentage figure for employment remaining in the state sector is, as we have seen, in the low 20s. So the potential benefits of the principle of privatisation are very considerable. What, then, is the problem?

3. Obstacles to further privatisation

The problems of further privatisation are perhaps epitomised by attitudes towards rail privatisation in the UK. This was carried out by the Major government shortly after the 1992 election. The impact has been remarkable. Prior to privatisation, the peak number of passenger journeys made each year was some 1.1 billion in the mid-1950s. Faced with rapidly rising road competition, and not really having the ability or the willingness to respond, the rail industry saw journeys fall steadily, to a trough or around 750 million in the mid-1990s. Following privatisation, massive investment programmes have been carried out and, in the form of the train operating companies, there is now a distinct part of the industry whose priority focus is the consumer. Journey numbers rose, passing the 1 billion mark in 2003, to the current level of 1.5 billion, a figure not seen since the early 1920s, when road competition was very weak. The number of journeys has in fact doubled during the two decades of privatisation (*Office for National Statistics).*

So the revealed preference of consumers, as economists describe it, has been to use trains for many more journeys. The overall attitudes measured in the Annual Passenger Survey [ref] appear to support this. Overall satisfaction with the total journey is consistently measured at percentages in the low 80s. However, the percentage believing that rail journeys represent value for money are only half that figure. More dramatically, a recent (summer 2013) and not untypical opinion poll[2] found that the net percentages believing that re-nationalisation would make journeys cheaper and mean better services were, respectively, +29 and +23.

Academic criticisms of rail privatisation are widespread. Perhaps more tellingly, there is currently a fierce debate within the opposition Labour Party about whether Britain's railways should be re-nationalised. The last time there was a debate of this nature in British politics was fifty years ago in the early 1960s, the industry concerned being steel. Labour is not a flat earth party. It was in power 1997-2010, and is serious about regaining it. So, although the issue is unresolved at the time of writing, substantial sections of the UK's main opposition party feel there is enough public support for them to advocate a policy of re-nationalising rail, despite the apparent massive success of privatisation.

There seems to be particular resistance to the concept of services such as education, health, care provision and the like being supplied by profit-oriented companies. Of course, there is already some element of market provision in these sectors in Western Europe, but the dominant supplier is still the state.

Worth and Nwoador (2012) describe recent survey evidence from a variety of sources for the UK in sectors such as education and health. There is strong backing for the idea of more choice, especially amongst the lower social groups, mainly because the highest group already has access to choice by virtue of its income levels. However, the concept of services being provided by for-dividend companies was received much less enthusiastically. Dan et al. (2012) report survey evidence across the countries of Western Europe. They find, for example, that 'A preference for private sector/private firms as primary provider of long-term care services is extremely low in all countries... We see a very similar picture for social assistance and employment services' (p.37).

Economists are in general very sceptical about surveys of opinion regarding the hypothetical provision of services. The latter is of course the case in the context of the above evidence, which consists of surveys which ask about attitudes to services being provided under different structures from those which currently exist.

[2] Survation (2013), at for example http://labourlist.org/2013/06/renationalise-it-public-say-railways-would-be-better-and-cheaper-under-public-control/

A recent issue of the *Journal of Economic Perspectives* contains a group of papers on the closely related concept of contingent valuation, in which willingness to pay is assessed by survey questions. Many of the criticisms which apply to this specific area are relevant to the survey evidence in general. The leading econometrician Jerry Hausman (2012) notes that he wrote a paper with Peter Diamond on contingent valuation 20 years ago (Diamond and Hausman 1994). He states 'Peter's view was that contingent valuation was hopeless, while I was dubious but somewhat more optimistic. But 20 years later.... I have concluded that Peter's earlier position was correct'. (p.43).

An important reason cited by Hausman (2012) is known as hypothetical bias. This is the bias which arises in answering a hypothetical question with which the respondent has no market experience. What people say is different from what they do. The example above of rail privatisation in the UK seems a good illustration of the concept. Privatisation reversed forty year trend of declining journey numbers, and indeed they have boomed. But people in surveys support the idea that re-nationalisation will provide a better service.

In his introduction, Hausman reveals what is perhaps the key factor which underpins the attitudes of economists towards surveys: 'I believe that respondents to... surveys are often not responding out of stable or well-defined preferences, but are essentially inventing their answers on the fly, in a way which makes the resulting data useless for serious analysis.' In other words, in mainstream economic theory, the assumption is made that agents have fixed tastes and preferences. These preferences are revealed not through answers to hypothetical questions, but through how they actually respond to changes in the set of incentives which they face.

The opening paper in the volume containing the Hausman paper (Kling et al. 2012) offers more of a defence of surveys, mainly from the perspective of behavioural economics. It is stated, for example, that 'the findings of behavioural economic can be grouped into two broad categories: 1) individual preferences may not be well-behaved in the neoclassical sense and/or 2) individuals do not always optimize when making choices'. However, in the context of discussing departures from optimising behaviour, Kling et al. go on to say 'rationality may be the result of repeated participation in markets, where mistakes are costly and individuals learn'.

If either of these perspectives is correct, the implication for policymakers is that they should simply proceed with the next phase of privatisation, with removing control of health, education, care services and the like from the *nomenklatura* embedded in public sector management. If surveys have little or no value, then, once superior services are offered by the newly privatised activities, the stable preferences of consumers will ensure that they have support. And if, for example, in the short-run agents fail to optimise and make mistakes in their choices, they will learn.

However, an evolutionary approach to consumer preferences suggests that such an approach would carry very considerable risks. It is to this which we now turn.

4. Evolutionary approaches to consumer attitudes

There seems to be considerable resistance to further phases of privatisation amongst consumers – who are also, in a policy context, voters. A task facing the advocates of privatisation is therefore how to influence the dynamics of opinion formation.

The core model of standard economics in terms of consumer behaviour assumes that an agent has a fixed set of preferences, gathers complete information on all available alternatives, and then selects, subject to a budget constraint, the one which most closely matches its preferences. It has become recognised that these assumptions often need to be relaxed to take into account factors such as the costs of gathering information and imperfect information whilst retaining the basic principle of fixed preferences. In the context of privatisation, an obvious way of changing opinions is to provide people with more information. If people perceive the benefits of privatisation imperfectly, then increasing the information available on this will eventually do the trick.

However, there are some quite different perspectives on how consumers make many of their decisions, especially regarding choices which are complex and unfamiliar. Bentley et al. (2011a) offer a heuristic scheme for the circumstances in which different 'null models' of consumer choice are relevant. For example, if consumers make choices independently of any social influence, and it is easy to distinguish between the attributes of the available alternatives, the standard 'rational' model of choice in economic theory may be the best to use.

However, given the stupendous amount of choice which is available under capitalism in the early 21st century, and the complex nature of many of the products and services which are on offer, the standard theory of consumer choice in economics may be thought to place unrealistic demands in many circumstances on the cognitive capacity of agents. Beinhocker (2007), for example, notes that: 'The Wal-Mart near JFK Airport has over 100,000 different items in stock, there are over200 television channels offered on cable TV, Barnes and Noble lists over 8 million titles, the local supermarket has 275 varieties of breakfast cereal, the typical department store offers 150 types of lipstick, and there are over 50,000 restaurants in New York City alone.' At the stock keeping unit level (SKU), the level of product detail at which retailers specify their restocking orders, Beinhocker estimates that on a single day in New York, there are 10 billion (!) such choices available. There may indeed be objective differences between the various offers, but in such numerous, minor and often incomprehensible ways that they exemplify what has come to be called 'decision fatigue' (Baumeister and Tierney 2011).

A strategy for choosing which is based on copying the choices of others may be rational in such circumstances. This is not the place for an extended discussion of models based on these principles, except to note that models of this kind are able to account for empirical outcomes observed in a wide range of contexts. A general illustration of the power of a simple copying rule in an evolutionary context is given by the tournament described in Rendell et al. (2010).

A simple but important model of this kind is based on the principle of binary choice with externalities, introduced by Schelling (1973) and formalised by, for example, Watts (2002). Agents face a binary choice, such as whether or not to buy a particular product, whether to be for or against a particular concept. We can describe this in general as being a choice between state 0 and state 1 of the world. Initially, all agents are in state 0, and a few are selected at random to move to state 1. Agents are connected on a network, and in considering whether to switch from state 0 to state 1, an agent looks at, not the attributes of the alternative choices, but simply the states of the world of the other agents to which it is connected. Each agent is allocated at random a so-called threshold, a number between zero and one. An agent compares its threshold with the proportion of agents to which it is connected which are in the alternative state of the world to itself. It switches if the proportion is above this threshold, otherwise it remains with its previous choice.

This may seem a bizarre model to economists, but its power to understand the world is considerable. The music download experiment of Salganik, Dodds and Watts (2006), for example, shows how the impact of the influence of the choices of others on an individual's decision can dramatically alter the features of the statistical distribution of the outcome of choice made about different alternatives. There is only a weak correlation between the market shares obtained by the songs in the experiments which contained social influence, and the quality ratings attached to the songs in the experiments in which the agents acted autonomously. Further, Ormerod (2012) shows that in a typical experiment without social influence, the ratio of the number of downloads of the most popular and least popular songs was approximately 3:1. However, in the social influence experiments, the ratio rose typically to around 50:1.

A great deal is known about the percolation properties of models such as that of binary choice with externalities (see for example Newman et al.2006). In other words, how and to what extent agents in the model, starting from a position in which most are in state 0, switch to state 1.

Of course, in reality there will be many nuances in terms of opinions on further privatisation, but the simplification that people are either for or against can yield useful insights. For example, Hayek, in his 1949 essay 'The Intellectuals and Socialism', considered the question of how ideas of planning and socialism had come to a dominant position in the market-oriented economies of the West. He attributed this to the role of intellectuals. By the word 'intellectual' he did not mean an original thinker. Rather, for Hayek intellectuals were 'professional second-hand dealers in ideas', such as journalists, commentators, teachers, lecturers, artists or cartoonists. An important implication of Hayek's work on this, of course, is that the objective attributes of the alternatives (capitalism and socialism, for example, to put it at its starkest) on offer are irrelevant to how their popularity evolves, to the dynamics of opinion formation about them. Capitalism is, and indeed was in the 1940s, so demonstrably superior to socialism that it is hard to imagine how anyone exercising rational choice in the sense of economics could possibly choose the latter.

Ormerod (2006) used the binary choice with externalities model to formalise Hayek's insight into how ideas and attitudes might either spread, or be contained, if Hayek's basic postulate were correct. Translated into network theory terms, his assumption that highly connected intellectuals are key opinion formers means that agents in the model are connected on a scale-free network. This means that a relatively small number of agents have many connections to others, whilst most agents have only a few. The hubs – the highly connected agents - exercise influence in two ways. First, simply by virtue of having many connections. Even if their opinions only carry the same weight as any other agent in terms of persuading an agent to switch opinion, the mere fact that they are highly connected means that there is a greater chance of influencing at least one other agent to change than with a weakly connected agent. Second, if they are well known, agents may assign greater weight to their views than to most to others to whom they are connected. If the latter is the case, it is difficult for opinions to change across the network unless the hubs adopt the relevant view.

If this type of network is thought to be a reasonable approximation to the kinds of social networks across which opinions on privatisation evolve, then a small minority can set the terms of the debate decisively. Hayek conjectured this to be the case with planning and socialism, and modern developments in networks in conjunction with evolutionary approaches to consumer choice demonstrate the mechanisms by which this can occur.

In such circumstances, the risks involved in trying to alter opinions on further privatisations are considerable. Certainly in the Anglo-Saxon world and in the higher reaches of the European Commission, many of these 'second-hand dealers in ideas, are often quite hostile to market-oriented approaches. Banos et al. (2013) give an illustration in the context of Twitter how the hubs 'can often act as firewalls for information spreading'.

But there is a further potential difficulty with the opinion dynamics of privatisation, with how attitudes might evolve. As already noted, a large literature has developed, mainly over the past 10-15 years, on how opinions either spread or are contained across social networks. Almost all of this literature, however, is based on the assumption that agents face a one-off choice of adopting or not adopting a particular, technology, product or opinion. In practice, however, agents may very well be confronted a chain of mutually dependent decisions about complex alternatives over a period of time. In the context of the next phase of privatisation, depending upon the particular country, it might be aspects of education, then care services, then prisons, or whatever. Opinions would evolve over time, with each stage of the process being influenced by those which have already happened.

In the formal context of the kinds of model and results on networks discussed above, the existing literature assumes that both the structure of the network and the behavioural rules followed by agents are fixed. In the context of a one-off choice, this is reasonable. With sequential decisions involving mutual dependence, it is not.

Nowak et al. (2012) endogenise the behaviour of agents in the specific context of the model of binary choice with externalities. They introduce into the model the fundamental psychological principle of self-image. The specific issue which they address is that of brand loyalty. The paper shows that brand loyalty can be regarded as a social construct, which emerges when the fundamental psychological principle of self-image is combined with agents reacting to each others' decisions in social network markets. Brand loyalty can emerge even when agents find it hard to distinguish between brands in terms of their objective attributes.

In terms of the technical specification of the model, the threshold – the willingness to adopt new products/ideas – of an agent alters each time it makes a decision to adopt or to stay with its existing choice. If it switches, its threshold is reduced and it becomes more likely to switch in future, and vice versa if it does not adopt the new product. Its self-image of its willingness to adopt is altered by its actual decisions on adoptions. The thresholds evolve over sequential solutions of the model.

The same principles may very well apply in the context of a wave of privatisations. People will form views on each particular one, and their perception of themselves and their attitudes will evolve in ways which depend upon the opinions which they formed in the past. Nowak et al. find that there is a definite tendency for the market to segment. A group emerges which is characterised by very low thresholds. In other words, they become enthusiastic about the sequence of products are willing to adopt the next one which comes along. But, equally, a group emerges which is very resistant to change, and this group is typically considerably larger.

A key feature of all these models of choice is that there is path dependence. No single solution of the model is identical to other, and the size of the adoption cascade – the proportion which ultimately switches to state 1 of the world – will vary dramatically. Relatively small differences in the initial steps of two separate solutions of the model may lead to outcomes which are very substantially different. A general property of such models, when many solutions are obtained, is that occasionally many people will be persuaded to change their minds, but most of the time this will not be the case. This is particularly so if the willingness to adopt new opinions itself evolves over a sequence of such choices.

So there are very definite risks of a policy which is based on a disregard of survey evidence, on the economics-generated belief that what matters is the objective attributes of the alternatives on offer, and that eventually the best will prevail. As noted, the types of model of choice used above to illustrate these points may seem strange to economists. In particular, the idea that the attributes of the alternatives may have little or no relevance in the selection process is a difficult one for economists to confront. But, again, Hayek himself analysed such a situation in terms of the evolution of attitudes towards planning and socialism, when the markedly inferior alternative attracted strong support.

The option to be considered is therefore to take into account stated preferences in surveys, and to base the next phase of privatisation on institutional structures which are different from the profit-oriented joint stock company. Such a strategy would be much more in tune with public opinion. But would it mean that many of the benefits of privatisation would be dissipated? The gains from previous privatisations have mainly arisen from the introduction of shareholder based, profit-oriented companies into the relevant sector. Would these be at risk if 'softer' forms were adopted in order to appease public opinion? We consider this in the next section.

5. Evolutionary approaches to corporate structure[3]

The corporate world exhibits a wide variety of structures. Co-operatives and partnerships have been around for a long time and some of them are well-known. *The* Co-op, for example, was founded in Rochdale as long ago as 1844 and is now represented worldwide. Goldman Sachs was a partnership for most of its existence. There are more exotic forms of the corporate beast, such as companies limited by guarantee, industrial and provident societies, friendly societies and, recently made possible by legislation, community interest companies.

But by far the dominant form of corporate organisation is that of the joint stock company. In other words, companies ultimately controlled by shareholders with publicly listed shares. These can range from one-person bands to the world's largest firms such as Google. Using

[3] The material in this section is discussed at greater length in Fisher and Ormerod (2013)

UK data as an illustration, according the Office for National Statistics there are just over 2 million trading enterprises in the UK[4], and of these some 60 per cent are companies. Sole proprietors, enterprises involving just a single person, make up almost 25 per cent of the total. The third largest group is partnerships, accounting for just over 10 per cent of enterprises. Together, these three forms constitute some 95 per cent of the total number of enterprises in the UK. The dominance of this particular 'species', the limited liability company, is dramatically more marked in terms of its economic importance. However, it is safe to say that companies with over 250 employees, which are almost exclusively limited liability companies, account for well over half of total private sector in the UK.

But the real success of the limited liability company is that it has been the main structural vehicle for the tremendous success of capitalism in the 20th century. During the course of the century, for example, real income per head rose by some 350 per cent in the UK, 540 per cent in the US and 570 per cent in Germany. Over the same period, leisure time expanded dramatically. So, for example, average annual hours worked are estimated to have fallen[5] by 44, 41 and 46 per cent in the UK, US and Germany respectively. Annual holiday entitlement has also expanded. As late as the 1950s it was not uncommon for workers to have just a single week of holiday (in addition to public holidays), whereas at least four weeks is now the norm, certainly in the UK and on the Continent.

Given what has happened, the dominance of the limited liability company may be perceived as having been somehow inevitable, because of its superior attributes. But the key principles of an evolutionary perspective suggest that is not necessarily the case at all. The concept of path dependence has already been mentioned, how history matters, and how small changes in the early phases of a 'solution' – in this case, the actual economic history of the West – can have very important long-range consequences.

In a complex evolving system, a change in one part of the system affects other parts until the system acquires new properties that its individual components did not possess. A clear and illuminating discussion of the main features of such systems is given, in the context of international relations, by Root (2013).

The concept of emergence is fundamental to complex systems. Emergence is what occurs in a system when the behaviours between and among agents contribute to a more complex behaviour of the whole. The system acquires new structures and properties that its individual components did not possess. Interdependence describes how the parts of a system affect other parts. We will never know what would have happened if, say, the co-operative model had taken an early lead in terms of the number of companies adopting it compared to the joint stock structure.

[4] These are enterprises registered for VAT, implying a low but non-trivial turnover. The current threshold at which registration is compulsory is £77,000 annual turnover. The estimated number of sole proprietorships below this level of turnover is well over 2 million.

[5] A Maddison, *Monitoring the World Economy*, OECD, Paris, 1995

In complex systems, a central administrator rarely guides the collective behaviours that characterize developmental processes. The system itself has a collective behaviour that depends on all its parts. Rather than convergence toward a dominant model, or "global optimum," the interactive dynamics are co-evolutionary; their interactions result in reciprocal and evolving change.

Classic Darwinism would lead us to believe that the shareholder company is dominant because it is better suited to the environment, to the ecology of corporate structure. It is somehow fitter than its rivals. Viewing the economy as an evolutionary structure is a far more powerful perspective than mainstream economics admits. Marshall (1890) argued that biology and not physics would prove to be the 'Mecca of the economist'. An important article is that by Alchian (1950), in which he draws analogies between survival and success in the market with the principles of selection postulated in evolutionary biology. Of course, this paper was used to argue that economists could continue to use the hypothesis of profit maximisation even if firms lacked sufficient knowledge in the face of uncertainty to consciously act in this way. It was 'as if' the selection mechanism obliged the survivors to do so.

So of the next phase of privatisation were to take place under different corporate structures, would the gains be diluted, would the outcomes be less efficient? Modern developments in evolutionary theory suggest that this would by no means necessarily be the case. Stephen Hubbell, based at the University of California at Los Angeles, came up with the so-called 'neutral' theory, which generates results which conform to the outcome we observe empirically in ecological systems. A few species have lots of members and most species have very few, which is exactly what we see with corporate forms.

A plausible hypothesis is that, in any given system, rare species are rare because, for whatever reason, they have not adapted well to their environment. Similarly, abundant species must have particular attributes which enable them to flourish. But the word 'neutral' in this context means that *no* species has any special qualities or characteristics which make it more or less suitable to operate in its given environment. Their relative success or failure is 'neutral' to their attributes. In other words, how a species behaves, what it can and cannot do, is irrelevant to whether or not at any point in time its numbers are small or large. The outcomes which we observe are the result of purely random processes.

The policy implications of this are important. If we think the neutral theory applies in any serious way to corporate structures, and if we wish to at least challenge the dominance of the shareholder company, the legislative environment should permit more innovation, to allow different forms to come forward, one of which will eventually replace the dominant species.

Certainly, in the context of the next phase of privatisation, we should be willing to experiment with a wide range of corporate structures. This will be important in soothing the doubts of the public about the provision of 'public' services by profit-oriented joint stock companies, and it need imply no reduction in the benefits obtained from privatisation. Importantly, however, we must be willing to confront the fact that there will be failures.

Conclusion

In general, privatisations which have been carried out have made the industries more efficient and have improved outcomes for consumers. There is considerable scope for further privatisation. The increases in the direct claims of the public sector as a proportion of GDP which have been seen in most Western countries since the 1960s have been to a large part due to the rise of a new, or at least vastly expanded, set of middle class professions. Much of this activity is rent-seeking rather than productive. Academics, for example, will certainly be aware the huge increase in the number bureaucrats in their own sector. Reducing these claims on the economy should be the main focus of privatisation.

However, survey evidence indicates that there is very considerable resistance to the idea that sectors such as health and education should be run by companies which pay dividends to shareholders. One strategy is to simply push ahead with privatisations run by traditional, for-profit joint stock companies. Consumers with stable preferences will observe the better performance, and as a result in their actions, as opposed to their opinions in surveys, will support the privatisations *ex post*.

There is some merit in this view, but it would, especially in the increasingly interconnected world of the 21st century, not be sensible to ignore the possibility that preferences are far from being stable. They not only evolve over time, but do so by taking into account directly the preferences of others. Hayek described this phenomenon in his 1949 essay on the intellectuals and socialism. Modern network theory enables these concepts to be formalised for the first time, and the insights can be used in helping public opinion to evolve.

A second practical point is to make concessions to the currently expressed preferences, and to carry out privatisation with a variety of corporate structures which differ from those of the traditional joint stock enterprise. The latter has been very successful in an evolutionary sense, in that it by far the dominant corporate form in the West. However, modern developments in evolutionary theory raise the possibility that this is not necessarily due to this particular organisational structure having superior attributes to any alternatives.

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