

Public or Private Production and Ownership

When choosing between two evils, I always like to try the one I've never tried before.

Mae West, actress

Ownership: Introduction ♦ Ownership and Efficiency ♦ Distributional Effects ♦ Evaluating Changes in Ownership ♦ Public-Private Partnerships

The economic theory of public goods tells us that government has a major role in the financial provision of these goods, but it does not tell us **how** these goods should be supplied. This applies both to user-pay services such as the major infrastructure networks for energy, water, telecommunications and transport and to major social services like health and education that are generally provided free. All these services are of fundamental importance to the economy and to most households. Many of them, especially the infrastructure services, contain elements of natural monopoly, so duplication would be inefficient, and many are integrated or networked services. These features led many governments historically to believe that public ownership of the network or service was necessary for efficient and socially just production (see Box 18.1 overleaf). Subsequently, poor performance in many cases led many governments first to develop quasi-independent public corporations (public trading enterprises) and then later in some cases to privatise these services (by sale to the private sector). However, the issue of public or private ownership and production remains an important one where the arguments are not always well understood.

We discussed some related issues when we considered the relative merits of in-house or outsourced production in Chapter 16. There we were principally discussing efficient short-term delivery of recurrent services. Here we discuss the long-term and structural foundations for the supply of fundamental economic and social services, including the ownership and control of assets. While some similar issues arise, we will also need to draw here on theories of incentives and behaviour, the nature of the firm and the influence of market structure.

The debate has also become complicated by the development of public–private partnerships (PPPs). Under the traditional model, either government or the private sector was responsible for all elements of the business including financing, owning and operating it. PPPs create the options where government is responsible for some elements of production and the private sector for others. Many permutations of public and private arrangements are possible.¹

¹ Public–private partnerships are sometimes described as private finance initiatives (PFIs) especially in the United Kingdom. The terms PFI and PPP are essentially interchangeable.

Box 18.1 Nationalisation and privatisation: A brief history

Economic fashions change. Following the Great Depression in the 1930s and the Second World War, governments around the world took over (nationalised) many large private businesses providing power, transport, telecommunications and other basic economic services in the belief that public ownership would be more efficient and equitable.

In the 1980s and 1990s, many governments sold these same businesses, thinking that private owners would manage them more efficiently. Between 1979 and 2000, the share of state-owned enterprises in global GDP fell from 10 per cent to 6 per cent (Megginson and Netter, 2001).

However, debate over ownership of key economic services continues. Government has re-nationalised various rail services and the London Underground in the United Kingdom, the print office in Germany, airport security services in the United States and the railways in New Zealand. And recently such private icons as General Motors, the Bank of America and the Bank of Scotland and numerous other banks have been temporarily at least nationalised.

In Australia, governments traditionally from the colonial days owned most of the infrastructure networks in the energy, water,

telecommunications and transport sectors. They also owned several banks and insurance companies.

Since 1990 government revenue from asset sales in Australia has been well over \$100 billion. In the first half of the 1990s, the Commonwealth (Labor) government sold Qantas and the Commonwealth Bank. Following this the Liberal-National coalition government sold the national telecommunications company (Telstra) and several airports. In the 1990s, state governments sold most of their publicly-owned banks and insurance companies. The Victorian government also sold its electricity generators and distributors and its transmission grid. In the last 15 years the NSW government has sold numerous assets, including electricity transmission and retail businesses, ports and the property registration service, and the Queensland government has sold its major railway lines.

On the other hand, in 2008 the Commonwealth (Labor) government set up the wholly state-owned National Broadband Network Corporation with a monopoly charter to provide broadband infrastructure to every home in the land at an greatly under-estimated capital cost of \$45 billion.

This chapter starts with a discussion of the nature of ownership, reasons for privatisation, methods of privatisation and PPPs. We then discuss efficiency and equity issues associated with public and private ownership and production and how to evaluate changes in ownership. Finally, the chapter discusses some key issues for PPPs.

Ownership: Introduction

Ownership implies rights and risks. Ownership of assets entitles the owners to determine how the assets are used and how the business is managed. Ownership also entitles the owners to the residual earnings from the assets of the business after all prior claims have been met. These claims include payments to workers, suppliers of equipment and materials, debt and interest payments and tax liabilities. On the other hand, the owners bear the prime risk of business failure. Accordingly, a key issue is: 'do the financial incentives associated with ownership result in efficient management of the business and efficient allocation of the risk?'

Turning to business models, two important issues should be noted. The first relates to the role of regulation. Publicly owned firms are in effect highly regulated. But private firms can also be subject to strong regulations as well as to general commercial regulations. When government transfers a business to the private sector, it must decide the kind of regulation that will apply. If it transfers a natural monopoly, such as an electricity transmission grid, there is likely to be substantial ongoing regulation. In this case government must choose between running a publicly owned business and regulating a privately-owned monopoly. In other cases, the choice lies between a publicly owned business and a competitive private business.

Second, most large businesses can be broken into separate vertical and horizontal components. For example, a vertically integrated electricity industry can be broken down into power generation, transmission and distribution businesses and into separate geographical areas. In major construction projects, the works can be broken down into design, construction, finance, management of the asset, provision of operating services and so on. Ideally

government would find the public–private mix for each of these component services that produced the best overall result. The capacity to break businesses or projects into component parts has been an important factor leading to the development of PPPs.

Objectives of privatisation

The fundamental objectives of privatisation are the same as the objectives for any use of resources, namely efficiency and equity. We will see how these objectives can be applied to evaluate privatisation proposals below.

It is sometimes suggested (for example Price Waterhouse, 1989) that there are other economic objectives such as subjecting state-owned enterprises to market discipline or providing the opportunity to introduce competition. These are important considerations, but they are essentially means to produce efficient outcomes rather than objectives in themselves.

Governments often sell assets for financial reasons, especially to avoid or reduce a financial deficit. We also discuss this below and conclude that, in the absence of economic (efficiency) reasons to sell assets, financial reasons rarely justify selling assets.

Finally, governments sometimes have avowedly political motives for selling public assets. The UK (Thatcher) government in the 1980s saw wider ownership of equities (shares) as a vehicle to reduce the power of the labour unions and to promote capitalism and hence voter support for its ideology and the governing (Conservative) party.

Methods of privatisation

The most common way to transfer a business is by sale of shares to the public. Most often, government issues a number of shares at a set price. And generally, in return for an underwriting fee, private financial institutions guarantee that the shares will be taken up at the offer price. If there is excess demand for the shares at the offer price, the shares requested are scaled down, usually according to a predetermined formula, to the number available. Where this occurs, after the shares are listed on the stock market the price rises above the government's offer price. Alternatively, government may auction shares to the highest bidders. This may increase the price received by government, but it increases the risk borne by government as the price may be lower than in an underwritten tender.

Government may also sell a business to a single firm or to a consortium via a trade sale, usually by competitive tender. The Australian government used trade sales, for example, for airports. A trade sale is easier and quicker to organise than a sale to the general public. However, when there are few tenderers it may raise less money. Also, it may result in an increase in private market power. Businesses may also be placed with groups of investors or sold via a management and employee buyout, as occurred with the sale of the National Freight Consortium in the UK.

Government can also transfer assets simply by distributing shares free to all or selected citizens. This method has been used in Eastern Europe (World Bank, 1996). The method is fast and fair. But it raises no revenue for government and, initially at least, it may create a governance vacuum.

Importantly, the rights, obligations and constraints that attach to the transfer of assets or related business are critical to the sale price, the competitive environment and the subsequent operation of the assets. For example, when the UK government floated British Telecom (BT), it legislated that only limited competition for BT would be allowed. On the other hand, in Australia it was always understood that the privatised Telstra would compete with other privately-owned telecom companies.²

² But few investors anticipated that Telstra would be forcibly divested of its wholesaling business to make way for a new publicly owned telecom company (the NBN Corporation).

Government may also require a private firm to provide specified services that are not commercial. Regulations are critical to performance of the business especially when there is little competition, as, for example, with airports and power transmission facilities.

PPPs: mixed forms of ownership and finance

Table 18.1 shows a spectrum of ownership possibilities from full private to full public ownership and various PPP alternatives. In all cases government has the final regulatory control although this control may be constrained by contractual arrangements.

A common PPP arrangement is a BOOT-type arrangement, under which a private firm builds, owns and operates an asset, but ownership transfers to the state at end of a specified period. Usually the private sector arranges the capital funding. Sometimes, government contributes finance and guarantees some revenue streams, especially for social facilities.

However, there are many variations. Build, own and operate (BOO) arrangements are close to complete private provision and ownership, except that government usually has a major role in the planning stage. On the other hand, with build, transfer and operate (BTO) schemes the private sector may finance, build and operate the facility but ownership is transferred after construction back to government.

Leasing arrangements provide another approach. For example, government may lease a state-owned asset to a private firm for an agreed use for a period of, say, 10 or 20 years. The NSW government has leased its interstate rail lines to the (Commonwealth-owned) Australian Rail Track Corporation for 60 years. Alternatively, government may sell an asset to the private sector and lease it back for an agreed period and price. This is sometimes done with office buildings. The NSW government also did this for a large power station (Eraring).

Ownership and Efficiency

In this section we examine how ownership may affect efficiency. Specifically, we consider whether ownership affects allocative efficiency (the quantity and type of goods produced) or productive efficiency (the unit cost of goods supplied). Key issues are the impacts of ownership on (1) business objectives and (2) individual motivations and hence on business performance. We will also observe how markets may affect efficiency.

Table 18.1 Some forms of public-private partnership arrangements

<i>Areas of involvement</i>	<i>Full private ownership</i>	<i>BOOT-type arrangements</i>			<i>Public ownership with contracting out of supply</i>	<i>Traditional public ownership</i>
		<i>BOO</i>	<i>BOOT</i>	<i>BTO</i>		
Plan	P	P/G	P/G	P/G	G	G
Design	P	P	P	P	P/G	G
Finance	P	P	P/G	P/G	G	G
Construct	P	P	P	P	P/G	P/G
Operate/maintain	P	P	P	P	P	G
Ownership	P	P	P→G	G	G	G
Payment for services	C/G	C/G	C/G	C/G	C/G	C/G
Regulate	G	G	G	G	G	G

Key: P = private; G = government; C = consumers; BOO = build, own and operate; BOOT = build, own, operate and transfer; BTO = build, transfer and operate.

Source: Developed from EPAC (1995).

Under public ownership, government ministers determine objectives. The objectives may include political aims that are inconsistent with economic efficiency. On the other hand, most private firms aim (broadly) to maximise profits. In competitive markets, this objective is consistent with economic efficiency. Also, management incentives are generally clearer and more conducive to efficiency in the private sector than in the public. However, in less competitive markets Adam Smith's invisible hand becomes weaker and outcomes are less efficient. Maximising profits may mean increasing prices or reducing service quality.

Allocative efficiency

Supply of an efficient quantity of goods depends on efficient pricing and investment. As we have seen, efficient pricing is complex. While, in the short run, with a single supplier efficient supply usually requires short-run marginal cost prices. In the long run, businesses must have funds, or be able to access them, to invest to provide new services.

Historically, market failures, especially a lack of competition in the supply of basic infrastructure services, such as water and energy, provided a strong case for public ownership. Dominant private firms may set prices well above marginal cost and restrict output. Also, they are often weak on innovation. Restricted supply of key infrastructure services may impede the growth of other industries that depend on infrastructure. Such views supported the nationalisations of businesses after the Second World War.

However, publicly owned businesses may also set prices and invest inefficiently. The objectives of public enterprises are usually vague. For example, the statutory objective of Australia Post is 'to best meet the social, industrial and commercial needs of the Australian people for postal services'. There are no clear performance criteria and Australia Post is protected from direct competition. And the recent General Manager pocketed a salary of over half a million dollars.

There is also a risk of short-term political direction. Politicians may direct state-owned enterprises to provide subsidised services to favoured groups. Such directions depend more on political considerations than on efficiency objectives.

Without precise objectives and competitive constraints, managers of publicly owned businesses have considerable discretion over the quantity, quality, price and distribution of output. The managers generally have little incentive to increase the asset values that underlie the business. If performance is measured and rewards are determined by quantity of output, management has an incentive to maximise output regardless of marginal revenue and cost.

Recognising such limitations, governments may attempt to improve corporate governance by specifying objectives, giving agencies independence from short-term ministerial direction and improving incentives for managers. However, such reforms may not solve the underlying problems—the incentive structures in the public sector and the conflicts of interest between public sector managers, consumers and taxpayers. In the 1960s and 1970s the UK government issued three detailed White Papers on objectives and performance criteria for the major nationalised trading businesses, but the enterprises rarely adopted the recommended marginal cost pricing principles. Kay and Thompson (1986, p. 20) concluded: 'it is now apparent that at no time did this [the economic literature on nationalised industries] have any important influence on what nationalised industries actually did'. A more recent World Bank review of corporate reforms in state-owned electricity utilities in Mexico, New Zealand, the Philippines and South Africa (Irwin and Yanamoto, 2004) concluded that relationships between government and the utility will always be difficult while the government remains the utility's owner, but that corporate reforms do improve public utility performance.

Commonly public enterprises set prices too low, often under government pressure, and under-invest because they are under-funded and under-capitalised. The World Bank (2004a) reports similar practices and outcomes in developing economies. In wide-ranging international surveys, Hodge (2000) and Megginson and Netter (2001) show that, following

privatisation, firms tend to increase output, investment and capital efficiency. In Australia, both Telstra and the Commonwealth Bank working in competitive markets became much more customer focused after privatisation. On the other hand, in the late 1980s and early 1990s, the State Banks of Victoria and South Australia racked up billion dollar losses due to poor capital allocations and did not survive as independent institutions.

Overall, the evidence suggests that, with competition, private firms are more likely to produce the quantity, kind and quality of goods that consumers want than are public enterprises. Returns to shareholders and managers encourage private firms to supply market demands. Most firms face the threat of takeover. Many face international competition. Actual or potential competition ensures that prices are related broadly to costs. The need for survival and the goal of large profits spur a constant search for new products. Even in Eastern Europe, where institutional support for markets is often weak, privatised firms have reportedly been more innovative than state-owned enterprises (World Bank, 1996).

However, two major caveats are in order. First, the global financial crisis that erupted in 2007 revealed that private firms, especially those in the financial sector, created incentives for managers and traders to take risks, were liable to act inefficiently and dishonestly, and make costly errors. Many went bankrupt, thus contradicting the idea that private firms invariably make better investment and management decisions than public firms.

Second, post-privatisation outcomes are not necessarily efficient in uncompetitive markets. Private monopolies, such as Sydney Airport Holdings which owns and operates Sydney airport, may over-price and under-supply services. Energy prices on Australia have also soared since privatisation. To deal with market dominance issues, the private firms may be subject to detailed regulatory control. In such cases, a publicly owned business may produce as efficient a quantity and range of goods as would a private firm.

Productive efficiency

The evidence regarding productive efficiency is a little clearer. As we saw in Chapter 16, public services are often supplied at lower cost when outsourced. Several studies of the performance of public and private enterprises show similar results. In Australia, Domberger and Piggott (1986) found that private firms provided banking, urban bus services and airline services more cheaply than public enterprises. Internationally, Shirley and Walsh (2000) recorded that, out of 16 studies involving alternative ownership in competitive markets, 11 found that private ownership improves labour and total factor productivity, while five studies found no difference. In a survey of privatisation studies, Megginson and Netter (2001) concluded that private firms achieve large productivity improvements. In a World Bank study of 1200 utilities in 71 developing and transition economies, Gassner *et al.* (2008) found that privately operated utilities substantially out-performed state-run ones in operational performance and labour productivity. This indicates that cost savings are due to productivity and not just to paying lower wages to private sector workers. Rosen and Gayer (2014, p.66) also tend to the conclusion that private firms operate faster and at lower costs, but they qualify the conclusions by suggesting that they may produce lower quality services.³

However, analysts disagree on the extent to which productivity improvements should be attributed to changes in ownership as distinct from changes in competition. Vickers and Yarrow (1991) found that a competitive market structure had more effect on production costs than did ownership. On the other hand, Boardman and Vining (1989) examined the performance of the 500 largest manufacturing and mining companies in the world outside the United States, all operating in a competitive environment, and found that the private firms

³ Some studies, for example Bhattacharya *et al.* (1994), find that the public sector is more efficient than the private, but these studies are a minority.

were significantly more productive and profitable than public agencies. In Australia, when public airlines or banks competed with private ones the private firms generally performed more efficiently. Where large productivity and cost differences have been found in other cases (e.g. in urban bus services, cleaning services, refuse collection and housing construction), it is unlikely that all differences are attributable to market structure.

A major reason why private firms usually produce goods at lower cost is the stronger incentive to reduce costs. Managerial salaries are usually related to profits. In a competitive market, bankruptcy and takeovers eliminate high-cost firms. Also, there is more monitoring and disclosure of information in private markets than in public ones. The incentives to reduce costs are lower when private firms enjoy significant market power. As the economist John Hicks (1935) remarked: ‘the best of all monopoly profits is a quiet life’. But, in a monopoly market, when the market valuation of a company falls, takeovers occur and managers lose their jobs. This threat constrains managerial ‘slack’. On the other hand, publicly owned businesses tend to have inflexible structures for labour, marketing and finance that are not conducive to efficient management. They also face little threat of termination. In public ownership there are no hard budget constraints.

One factor that arguably favours public production is the lower cost of capital. Private firms often pay several percentage points more for equity capital than government does. Quiggin (2010) argued that this represents a real cost saving because the public sector is more efficient at managing and diversifying risk than are private capital markets. Caution is needed here because government’s power to borrow at low rates reflects in large part its capacity to tax households rather than superior risk management. To compare the real costs of capital, it is necessary to account for the deadweight loss of taxation, which is usually estimated to be at least 20 cents in the dollar (see Chapter 27). The high cost of equity in the private market reflects non-diversifiable systemic risks. Government agencies are also liable to systemic market risk, though perhaps less so than are private firms.

Concluding comments

As Rosen and Gayer observe (2014, p.66), there seems to be little systematic evidence on the cost differences between public and private production.

In public agencies, unclear objectives, ad hoc political directions, principal–agent issues and inflexible working structures tend to create inefficient processes. Even when markets are not initially competitive, privatisation of a public business may lead to more competition in the market, although this depends on how the privatisation is managed. Importantly, where there is competition for a market the government may extract efficiency gains from a competitive tender. The problem is then, with long-term businesses, how to prevent monopoly practices from creeping back into the operations of the successful firm.

If a competitive outcome is not feasible, the advantages of private operations are much smaller. There is still competition in the capital market if the private firm is inefficient. But a dominant private firm is likely to be regulated. In this case, the efficiency benefit of privatisation (if any) depends on the relative efficiency of public and private monopolies and the efficacy of the regulations.

Distributional Effects

Privatisation can have significant distributional impacts. It may affect prices, wages and the returns to owners of capital. For example, there is often concern that private ownership may:

- increase the prices of basic services;
- lower real wages of employees and lower employment; and
- create capital gains for investors at the expense of taxpayers.

Prices of services. For various reasons, government agencies often provide basic services at low prices to some or all households. These prices may rise after privatisation occurs and the constraints and incentives change. Alternatively, a public business may cross-subsidise some consumers. In Australia, publicly owned telecommunication businesses (Telstra and Australia Post) for many years used profits from urban services to subsidise rural services. These subsidies are likely to continue with Australia Post and the National Broadband Network Corporation. Privatisation threatens this subsidy because private firms may enter the profitable sector, drive down prices there and not supply the unprofitable part of the market.

To avoid these outcomes government can regulate the prices charged by private firms if it so wishes. However, price regulation is complex (as seen in Chapter 14) and most subsidy programs involve substantial transaction costs. Another strategy is to provide subsidies to service suppliers who lower their prices or to households by way of vouchers. When government subsidises the supply of a service, competition for provision of the service can ensure that the cost of the subsidy is minimised. When government subsidises consumers, consumers can choose the service of preference. Thus, the supply of subsidised services can be efficient and does not depend on public ownership.

Wages and employment. To maximise profits or simply to survive, private firms aim to minimise unit costs. Thus, privatisation may result in lower wages and employment in the privatised business, for example by contracting out work or by substituting capital for labour. After the privatisation of Japanese National Railways in 1983, the number of employees fell from 420 000 to 275 000 in three years. Most studies find that, following privatisation, employment falls in the privatised enterprise (Megginson and Netter, 2001). However, the longer-run labour outcome is less clear. If a privatised enterprise increases productivity and sales relative to the counterfactual (continued public ownership), real wages and employment may rise after a time.

From an economy-wide perspective, privatisation may redistribute and even increase employment rather than reduce it. Saunders (1985) found no relationship between total employment and the size of the public sector in OECD countries. It is generally more efficient to pay labour the value of its marginal product and to compensate low-income earners through the tax transfer payment system than to pay premiums to employees in the public sector. Departures from productivity-related payments tend to result in misallocation of labour and to reduce GDP and consequently incomes available for distribution. If privatisation is efficient but reduces the wages or other entitlements of workers in a previously state-owned business, government can provide compensation if it so wishes. For example, some UK privatisations allowed employees to acquire shares in the privatised organisation on favourable terms.

Investors and taxpayers. The third concern is that privatisation may create excess benefits for investors. In the 1980s the UK government underpriced the sale of several businesses. The share prices of Associated British Ports, British Aerospace, British Telecom and Cable and Wireless more than doubled, relative to market movements, after their float. Less than 4 per cent of the population benefited directly from the underpricing of public assets, although others benefited indirectly through their investments in financial institutions. In Australia, the share price of the Commonwealth Bank appreciated far more than the market index after floating in 1996. In these cases, shareholders gained considerably at taxpayer expense. On the other hand, investors who purchased the second and third tranches of Telstra shares have experienced substantial capital losses.

Shares in privatised businesses are underpriced when (1) returns to the privatised entity turn out to be higher than expected or (2) government wants certain revenue from the sale and is unwilling to auction the shares. In both cases new shareholders are rewarded for bearing the

risk and taxpayers are losers. Government may achieve a higher price by selling shares by tender to the highest bidders. But it may lose from not having a guaranteed, under-written, price. And sometimes share prices fall post-privatisation as profits are less than expected.

Of course, an initial fair market price along with a widespread shareholding may not prevent another company, even one controlled by a single person, taking over the privatised enterprise. Entrepreneurs are often willing to pay a premium over the established market price to obtain control of a company. Although privatisation usually increases competition, it creates the potential for concentrated private ownership of major enterprises and acquisition of wealth in a few hands unless government has a strong competition policy.

Broader social issues

Turning to broader social issues, libertarian advocates of privatisation claim that the markets are important not only because they allocate resources efficiently but because they contribute to liberty. They argue that state control over private consumption is coercive and illiberal. They advocate privatisation to reduce the power of the state over its members.

On the other hand, social democrats may argue that collective provision of basic social goods is preferable to the individualistic forms of behaviour encouraged by private markets. They may view public enterprises as enhancing communal interest. For example, many people argue that privatisation of health care services diminishes the sense of community. In Australia, as in most European countries, there is strong support for public health and education services, as well as for national transport and communications, because these services are felt to be important elements of the national social infrastructure.

Evaluating Changes in Ownership

Using the cost–benefit criterion, a change in ownership is **efficient** if the net social benefit (NSB) is positive. This means that the net benefits of production under new ownership must exceed those under existing ownership. The NSB of a privatisation can be expressed as:

$$NSB = \sum_{i=1}^m (WTP_p - RC_p) - \sum_{j=1}^n (WTP_s - RC_s) + \Delta TPE \quad (18.1)$$

where WTP represents the prices that consumers are willing to pay for goods, RC denotes the resource (opportunity) costs of production, TPE is any third-party effects, Δ denotes change, subscripts P and S represent private and state-owned businesses respectively, $i = 1 \dots m$ private goods and $j = 1 \dots n$ publicly provided goods.

Clearly, if the same output is supplied under public and private ownership, NSB reflects simply productive efficiency. Equation 18.1 allows for different goods, or different quality goods, to be produced after privatisation. Importantly, estimates of NSB should be based on the real opportunity costs of factors of production, not on nominal wages paid to labour or other nominal expenses where these differ from real opportunity cost. If workers of equal productivity are paid less in the market than in the public sector, this is a distributional impact but not an efficiency gain. All values should be estimated over a relevant period and discounted into present values.

The net efficiency change must equal the sum of changes to all affected parties. Thus, NSB must equal the sum of consumer and producer surpluses (for existing and new owners of capital and for labour) plus any changes in third-party effects. Thus,

$$NSB = \Delta GY + \Delta SY + \Delta LS + \Delta CS + \Delta TPE \quad (18.2)$$

where GY is government income, SY is private shareholder income, LS is labour surplus and, CS is consumer surplus. Of course, one or more of these values may be negative, notably LS . Again, all values should be in discounted present values.

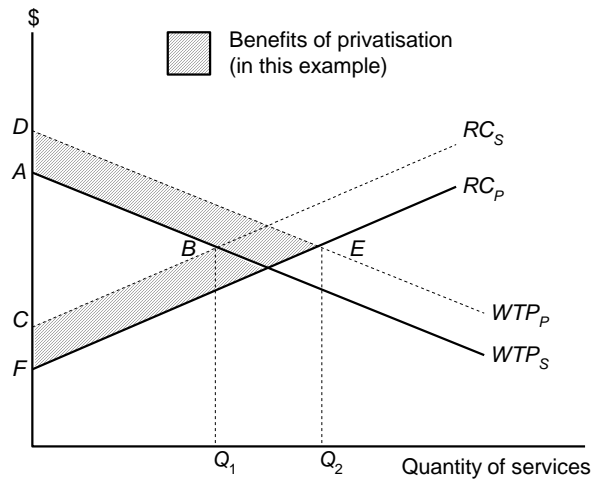


Figure 18.1 Estimating the net social benefit of a change in ownership

Both Equations 18.1 and 18.2 require estimates of the demand for goods (willingness-to-pay values) and opportunity costs. Equation 18.2 requires and provides more information, including distributional information that may interest policy makers. Either way, it is necessary to forecast the outcomes with a privatised business and those that would occur under continued public ownership.

These ideas are illustrated in Figure 18.1. This diagram shows separate willingness-to-pay (demand) curves for the services produced by a state- and privately-owned business (WTP_S and WTP_P respectively). There are also two resource cost curves (RC_S and RC_P respectively). There are no $TPEs$ in the figure. In this case, the NSB of privatisation is the difference between areas DEF and ABC . Of course, NSB is not always positive.

Note that Equations 18.1 and 18.2 are efficiency equations. Neither equation includes any equity weighting. As discussed in Chapter 8, there is no technical basis for introducing weights into cost-benefit analysis. However, policy makers may give more weight to some costs and benefits than others.

Distributional effects. If a public business is sold into a competitive capital market, government may receive most of the expected increase in profits in capitalised form via the sale price, including profits from any expected increases in prices. If it is a state government sale, the Commonwealth government may share the gains via increased taxes. On the other hand, new shareholders benefit if government underprices the shares or if future profits exceed expectations at the time of sale.

Turning to labour, if labour in publicly owned enterprises receives economic rents (paid higher wages than in the private sector), it may lose income when the business is privatised. Labour employed by a private firm is unlikely to receive significant economic rent.

Consumers may benefit from privatisation because private firms have more focus on consumer demands than do public agencies. Thus, more services may be available. The net benefit of these services is the consumer willingness to pay for them less the costs of producing them. On the other hand, a private firm may lower quality of service or raise prices to appropriate some of the ownership benefits. Also, the distribution of consumer benefits may change with changes in cross-price subsidies unless regulations prevent this.

Financial issues. When government sells a business, it gives up a productive asset and foregoes the related income stream in return for a financial asset. The net worth of government rises if the capital revenue from the sale exceeds the present value of the income stream forgone.

However, an increase in government's net worth does **not** itself signify an increase in economic efficiency. The financial value of a business may rise with the sale of a business because the private firm can raise prices more easily or employ labour at lower wages. These pecuniary changes may not reflect real efficiency benefits. Conversely, government could give a business away and lose substantial net worth, but society could benefit from the efficiency gains of privatisation, with the gains shared between the new owners and consumers.

Governments may sell assets to reduce a cash budget deficit or to finance creation of new assets without raising taxes, public borrowing or interest rates in the short run. In effect, government is financing its operations by selling equities instead of bonds (or raising taxes). Where government sells an asset to create a new one, the process is sometimes called "asset recycling".

Generally, privatisation is justified by efficiency benefits, not by short-term revenue gains. If the revenue is used to fund a recurrent budget deficit rather than invested, taxes and borrowing rise over time as the income stream from the public business is no longer available. If the change in ownership does not change the productivity of the business, the sale of a productive public asset at its full market price has the same effect on net public worth, taxes and interest rates as does the sale of a government bond of similar value. If privatisation increases productivity and government appropriates this gain via the sale price, the sale increases net public worth and reduces government's revenue-raising requirements. But this does not change the total gain from privatisation. It simply divides the gain between the public and private sectors.⁴

However, this case rests on the assumption that the government can borrow or equivalently that the public is indifferent between holding shares in a privatised business and holding government bonds. Where government is over-indebted and cannot borrow, it may have to sell productive assets. Greece is an example.

Public-Private Partnerships

In recent years governments have combined increasingly with private firms to finance, develop and manage public infrastructure, especially for roads and transport infrastructure but also for utilities, hospitals, schools and even prisons. Araujo and Sutherland (2010) report that capital investment in PPPs in OECD countries rose from around \$10 billion per annum in the second half of the 1990s to well over \$20 billion per annum between 2002 and 2007. About a third of the PPPs were in the United Kingdom.

Such privately financed deals are not new. In the 19th century most of the infrastructure of France was constructed using private equity and, by 1860, infrastructure companies accounted for 70 per cent of the total capitalisation of the Paris stock exchange. However, a feature of today's arrangements is that government often agrees to pay for some, or all, of the outputs provided. For example, government may pay for bed days in a hospital or for prisoner days in a prison or pay a shadow toll for each user of a highway. Thus, tax revenues pay ultimately for some or all use of the facility. Often the infrastructure is constructed and services are supplied by the private sector for an agreed period at the end of which the facility becomes public property (see Table 18.1).

⁴ If government revenue is increased, there may be a second order gain in efficiency if marginal tax rates (and the deadweight loss of taxation) can be reduced.

Other key features of PPPs are that they are typically contracts with a single company or consortium and they are long-term contracts often over 20 to 30 years or even more. This distinguishes them from the large numbers of contracts that government makes each year or even each month with private providers.

Benefits of PPPs. PPPs aim to achieve efficiency benefits from competition and private sector involvement in construction and operations while retaining more public control than can be achieved by regulation of private enterprises. In addition, ownership and management structures may be devised with the aim of ensuring that tasks are undertaken and risks are borne by the parties best able to do the work and bear the risk. Thus the operators have incentives to provide efficient design, construction and maintenance. Proponents of PPPs argue that this introduces economies in construction and more cost-effective services. A PPP structure may also provide some financing to a public project that would not otherwise be available when the provider of the finance has more confidence in the ability of a private company to manage the service in a financially viable manner. However, government can borrow to finance most projects given its power to raise revenue and repay loans via taxation.

Infrastructure Partnerships Australia (2007) employed consultants to review 21 PPP projects and 33 traditional projects. The report found that the cost overrun on contracted PPP projects of \$4.9 billion was only \$58 million compared with a cost overrun of \$673 million on \$4.5 billion of traditional projects. They also found that the PPP projects were completed on average 3.4 per cent ahead of time whereas the traditional projects were completed on average 23.5 per cent behind time. In addition, as measured by the amount of public data, the PPPs were far more transparent than the traditional projects. In the UK, the National Audit Office (2003) found that only about 20 per cent of PPP projects were over budget or over time compared with just over 70 per cent of traditionally procured projects.

Costs of PPPs. On the other hand, there are also several costs associated with PPPs. One is the high cost of finance. The cost of private equity, the most risky element of the funding package, may be 6–7 percentage points above the government borrowing rate. This is an economic cost required to compensate parties for bearing risk. The private sector bears regulatory risk (the possibility that government may change regulations) and it may be less efficient at managing risk than governments which can spread risk more widely over projects and taxpayers. However, as noted above, when public loans are repaid from taxes the borrowing rate understates the true economic cost of capital.

A second potential cost of PPPs relates to networking and economy of scale issues, especially when a business is a natural monopoly. When infrastructure is part of a network, breaking up the network into separate entities may involve operating diseconomies or high transaction costs. For example, there may be costs associated with operating parts of the urban rail network on a separate basis or with breaking up a vertically integrated operation into separate operations. In these circumstances private parties cannot accept market risks without protection from government, which effectively shifts some risks back to government.

Thirdly, because of the length of most PPP contracts, it is difficult to write precise and enforceable long-term contracts that clearly specify output requirements. When circumstances change, the government has to negotiate changes with a single major partner. As Araujo and Sutherland (2010) observed, governments are highly susceptible to hold-ups by private partners re-opening negotiations or to simple hold-ups when government seeks any variation in the terms of the contract. It is difficult to introduce competition during the life of the PPP. A lawyer in a large construction company observed recently to the writer that ‘the legal section makes all the profits’. What he meant was that company bid very leanly for its initial contracts and made most, or all, of its profits on the variations.

Fourthly, government is almost always taking on some contingent liability. If the private operator fails to perform according to the contract, the government frequently has to honour the creditors and ensure that the promised services are available to the public.

A final cost of PPPs arises from the secret bilateral negotiations between the government and a private firm, which are a common feature of PPPs. Often the final agreed contract follows months of negotiation and contains hundreds of clauses that are not in the initial tender. The private firm aims to pass the risk back to the government, usually by obtaining revenue guarantees or by restricting competition. Thus, the operators of the Sydney Harbour tunnel were guaranteed public revenue. The Sydney cross-city tunnel was constructed with private finance on the basis that numerous alternative routes would be closed. The Sydney M2 freeway was built with a government promise not to allow any new competitive infrastructure. Almost always these negotiations result in some economic inefficiency or, as Adam Smith would have described it, in some form of ‘conspiracy against the public interest’.

Summary. Public–private partnerships of some kind are a feature of numerous government activities. They can be efficient, save millions of dollars in cost and provide services to the public that they would not otherwise receive. However, the private sector requires a high return on capital. There are also many practical pitfalls in negotiating effective contracts. Therefore, while some PPPs are very successful, the general public is not always a net beneficiary of these deals.

Summary

- Over the last 30 years, governments worldwide have sold many businesses into private ownership. Governments are also drawing increasingly on the private sector to finance, construct and operate infrastructure that was traditionally financed, constructed and operated by the public sector.
- Incentives in the public and private sector are such that the transfer of businesses into private ownership is likely to be efficient when markets are competitive. The evidence supports this. The transfer of assets has generally resulted in an increased range of services and a lower cost of supply.
- However, when markets are not competitive all forms of ownership are potentially imperfect. If a business has natural monopolistic characteristics, the competitive parts may be separated and privatised. But if the whole business is privatised, regulation is generally necessary. In this case, what matters is the optimal combination of ownership and regulation.
- Ignoring third-party effects, privatisation is efficient if the sum of producer and consumer surpluses (including impacts on new and old owners, consumers and labour) is positive. An increase in the net worth of government is not a sufficient or a necessary condition for an efficient outcome.
- Privatisation may have significant distributional effects including lower wages and employment in the privatised firm and increased prices. However, privatisation may not reduce total employment.
- Also, if government wishes to provide subsidised services to selected groups, it can make community service payments to suppliers of the service or provide financial support direct to consumers.
- Public-private partnerships can be efficient, reduce costs and provide services to the public that they would not otherwise receive. However, the private sector requires a high return on capital and there are many practical pitfalls in negotiating effective long-term PPP contracts.

Questions

1. What incentives might make private firms more efficient than state-owned enterprises? Why is market structure important to incentives?
2. The Australian government sold Telstra, the major telecommunications company in the country. How would you analyse the efficiency and distributional effects of this sale?
3. Irving Fisher (the Fisher Separation Theorem) postulated that the investment and financing decision can be regarded as independent of each other. Is this a correct view?
4. Do post-privatisation share prices tell us anything about the nature of the privatisation?
5. Suppose that government can fund a project by issuing bonds at 6 per cent (public funding) or equity finance on which lenders require an average 10 per cent rate of return (private funding).
Why might government prefer private funding to public funding despite the higher cost of capital? Does the interest rate differential represent a real economic cost of the project?
6. If government sells a business and thereby avoids a budget deficit, is this a benefit of privatisation?
7. Are financial savings to government a measure of economic efficiency?
8. Public hospitals provide a range of medical, diagnostic and accommodation services. How might government decide on the optimal provision of these services by public employees or by private contracts? What kind of outcomes might occur?
9. If private contractors can run prisons and asylum detention centres more cheaply than can the government, does this mean that these prisons and detention centres should be run by the private sector?
10. Is public ownership necessary for an equitable supply of basic household services?
11. The Australian government has recently established a public company, the National Broadband Network Corporation, to provide a national broadband infrastructure with services to all homes and businesses in Australia. Most of the construction work is being done by private companies. Does this mean that the NBN is really a PPP?
12. What kind of contingent liabilities may a government incur in a PPP arrangement?
13. If a private company partner in a public private partnership goes into receivership, does this necessarily mean that the project developed by the PPP is inefficient?

Further Reading

- Araujo, S. and Sutherland, D. (2010) *Public Private Partnerships and Investment in Infrastructure*, OECD Economics Department Working Papers No. 803, OECD, Paris.
- Chan, C., Forward, D., Roper, H. and Sayers, C. (2009) *Public Infrastructure Financing: An International Perspective*, Productivity Commission Working Paper, Productivity Commission, Melbourne.
- Grossman, S.J. and Hart, O.D. (1986) 'The costs and benefits of ownership: a theory of vertical and lateral integration', *Journal of Political Economy*, 94, 691–719.
- King, S. and Pitchford, R. (1998) 'Privatisation in Australia: understanding the incentives in public and private firms', *Australian Economic Review*, 31, 313–328.
- Meggison, W.L. and Netter, J.M. (2002) 'From state to market: a survey of empirical studies on privatisation', *Journal of Economic Literature*, 39, 321–389.
- Quiggin, J. (2005) 'Public-private partnerships: options for improved risk allocation', *Australian Economic Review*, 38, 445–450.
- Quiggin, J. (2010) 'Privatisation', pp. 174–205 in *Zombie Economics*, Princeton University Press, Princeton, NJ.
- Rosen, H. and T. Gayer (2014) *Public Finance*, 10th ed., Chapter 4, McGraw-Hill, New York
- Vickers, J. and Yarrow, G. (1991) 'Economic perspectives on privatisation', *Journal of Economic Perspectives*, 5, 111–132.
- World Bank (2004) *Reforming Infrastructure: Privatisation, Regulation and Competition*, World Bank and Oxford University Press.