

Economic benefits of public services

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Abstract

The article reviews the extensive global empirical evidence on the relative efficiency of the private versus public sectors. The evidence does not support the view that there is any systematic difference in efficiency between public and private sector companies, either in services which are subject to outsourcing, such as waste management, or in sectors privatised by sale, such as telecoms. If the private sector does not have this efficiency advantage, then there is nothing to offset the higher private cost of capital, and it is always likely to be better value to use the public sector.

At the macro level, far from being a burden on the economy, growth in public spending as a proportion of the economy has had a persistent positive link with GDP growth for more than a century, in developing countries as well as high income countries. The mechanisms linking public spending and economic growth include investment in, and maintenance of, infrastructure, supporting an educated and healthy workforce, redistributing income to increase the spending power of poorer consumers, providing insurance against risks, direct support for industry - including through technological innovation - and increasing efficiency by taking on these functions. This public sector activity, directly and indirectly, supports half the formal jobs in the world, and has a comparative advantage in delivering public goods such as universal access to healthcare, affordable housing, and protecting the planet from climate change.

The need for public services and public spending is expected to grow globally due to continuing economic development, climate change and ageing populations, but, as in the past, this depends on the outcome of political processes.

Acronyms/Glossary

ECB	European Central Bank
EU	European Union
FT	Financial Times
GDP	Gross domestic product
ILO	International Labour Organisation
IMF	International Monetary Fund
LLW	London Living Wage
OECD	Organisation for Economic Cooperation and Development
PSIRU	Public Services International Research Unit
UNCTAD	United Nations Commission on Trade and Development
USD	USA dollars
WB	World Bank
WEO	World Economic Outlook

1. Introduction

Empirical evidence does not support widespread political assumptions or mainstream economic theorising about the public sector, neither at micro nor macro level. Rather, the evidence shows that at micro level, public sector organisations are not intrinsically less operationally efficient than private companies; and that at macro level, a continuously rising

share of public spending in the economy has not stifled economies, but has been associated with economic growth and delivery of public goods for well over a century.

The first section reviews the empirical evidence about the relative efficiency of the private versus public sectors. This does not support the view that there is any systematic difference in efficiency between public and private sector companies, either in services which are subject to outsourcing, such as waste management, or in sectors privatised by sale, such as telecoms. There is now extensive experience of all forms of privatization, and many studies, surveys, overviews and meta-reviews, whose results repeatedly find no evidence that the private sector is intrinsically more efficient. This picture is further confirmed by examination of nine sectors which are most often subject to privatisation, outsourcing and PPPs – buses, electricity, healthcare, ports, prisons, rail, telecoms, waste management and water – and the same results hold true in each sector: the evidence does not show any superior efficiency by private companies.

If the private sector does not have this efficiency advantage, then there is nothing to offset the higher private cost of capital. Governments can always borrow more cheaply than companies, so raising money through privatisation, outsourcing or PPPs [public-private-partnerships] is always the worse option. This has been stated very clearly by the IMF: “private sector borrowing generally costs more than government borrowing ... This being the case, when PPPs result in private borrowing being substituted for government borrowing, financing costs will in most cases rise...” Additionally, transaction costs of sales, regulation, contract renegotiations, etc. are significantly higher under privatisation. If there is no systematic efficiency advantage for using private companies, then it is always likely to be better value to use the public sector.

The next section examines the relationship between public spending and the general economy, in terms of growth, employment and public goods. Far from being a burden on the economy, growth in public spending as a proportion of the economy has had a persistent positive link with GDP growth for more than a century. The evidence for this positive link is visible in developing countries as well as high income countries. The mechanisms linking public spending and economic growth include investment in infrastructure, supporting an educated and healthy workforce, redistributing income to increase the spending power of poorer consumers, providing insurance against risks, direct support for industry – including through technological innovation - and increasing efficiency by taking on these functions.

The public economy supports employment, in both high income and developing countries, through direct employment of public service workers; indirect employment of workers by contractors supplying outsourced goods and services; employment of workers on infrastructure projects; the extra demand from the spending of the wages of these workers and also of recipients of social security benefits (the “multiplier effect”). The combined effect of these mechanisms is to support half the formal jobs in the world. Additionally, public subsidies have supported employment by private companies through recessions, or by providing employment guarantees. The public sector also supports the quality of employment by providing formal direct jobs with decent pay and conditions; using procurement rules to require “fair wages” from private contractors, to reduce gender and ethnic discrimination, and to strengthen formal employment of local workers. Public services also improve equality, because public sector provision reduces the extraction of profit, because public employment has less differential between highest and lowest, and because the value of public services themselves adds most to the effective income of poorer households.

The purpose of public spending and public services is to achieve public objectives, such as ensuring universal access to healthcare, affordable housing, and protecting the planet by the reduction of greenhouse gas emissions.

The article concludes on the political economy of public services. The decisions which drive the development of public services and public spending, or the imposition of austerity, are the outcome of political processes at national and international levels.

2. Efficiency

2.1. The importance of the question of comparative efficiency

It is widely assumed that privatisation or PPPs will result in greater levels of technical efficiency. That is, the private sector can always deliver a given level of service with less input costs than the public sector. Politicians, media, academics and consultants frequently refer to “private sector efficiency”. This assumption is often shared even by critics of privatisation.

It is supported by mainstream economic frameworks, including agency theory and public choice theory. Public choice theory proposes that government employees, in contrast to private entrepreneurs, do not seek profit maximization, but exploit public firms to attain political goals such as limiting unemployment, or self-interested advancement within the bureaucracy by maximising budgets, or delivering favours to pressure groups, all at the expense of efficiency (Niskanen, 1975; Buchanan and Tollinson, 1984; Rowley et al., 2013). Under agency theory, the demands by shareholders for returns will force managers to pursue policies which maximise the firm’s market value, whereas in the public sector these incentives are absent (Alchian and Demsetz, 1972; 1973).

This expectation of enhanced efficiency is crucial for the claim that general welfare is improved by privatisation and use of the private sector even for the delivery of public services. If the private sector does not have this efficiency advantage, then there can be no general case for any form of privatisation. This is because, from the perspective of the public interest, privatisations, outsourcing and PPPs are at a clear disadvantage in relation to most other economic criteria. The biggest single disadvantage is that the cost of investment finance is nearly always significantly more expensive with private operators, because of the higher cost of capital, due to the premium return on shareholder equity through dividends, and higher interest rates attached to private sector borrowing because of lower credit ratings. Unless the private sector can deliver real substantial savings from efficiency, then it is systematically likely to be worse value for the public. From the investors’ point of view, of course, the opposite is true: the higher returns on capital are the desired objective.

This has been stated very clearly by the IMF, in a 2004 policy paper which is concerned with PPPs, but the argument applies in the same way to outsourcing and privatisation by sale, and so these terms have been added to the following quote:

“when [outsourcing, privatisation or] PPPs result in private borrowing being substituted for government borrowing, financing costs will in most cases rise. Then the key issue is whether [outsourcing, privatisation or] PPPs result in efficiency gains that more than offset higher private sector borrowing costs... much of the case for [outsourcing, privatisation or] PPPs rests on the relative

efficiency of the private sector. While there is an extensive literature on this subject, the theory is ambiguous and the empirical evidence is mixed... It cannot be taken for granted that [outsourcing, privatisation or] PPPs are more efficient than public investment and government supply of services..." (IMF, 2004).

The general case is crucial for public policy decisions, because in practice, comparisons between public and private sector alternatives are rarely made. In the great majority of cases, private companies only compete for outsourced contracts against other private companies; and a privatisation by sale goes, by definition, to a private buyer. The more basic decision is the choice between public and any form of tendering or privatisation, which has to draw on the general evidence.

But these assumptions and theories are subject to the brutal test of empirical evidence. There is now extensive experience of all forms of privatisation, and researchers have published many studies of the empirical evidence on comparative technical efficiency. And the results are remarkably consistent across all sectors and all forms of privatisation and outsourcing: the empirical evidence does not show that the private sector is systematically more efficient than the public sector.

2.2. Effectiveness, efficiency and definitions

This does not mean the private sector can deliver public services just as well as the public sector. Privatised companies or contractors charge significantly more to users of services; and transaction costs of sales, regulation, contract renegotiations, etc., are always significantly higher under privatisation. The more fundamental question is whether systems using private companies can deliver public services as *effectively* as public sector systems. Public and private provision must be compared for their effectiveness in delivering these public goods, not just their cost-efficiency. It cannot be assessed through the results of individual companies, because it concerns the social and environmental and economic effects of the system as a whole. Efficiency is not the same as cutting costs. Lower costs may simply mean lower quality of service; or they may mean that the company is taking its profits by cutting the jobs, pay and conditions of its workers, without improving systems of work. This does not increase efficiency, it just redistributes income to the company at the expense of others. Assessing even technical efficiency requires considering results as well as inputs (Stone, 2013). It requires much better ways of assessing the quality of these effects, and more democratic processes for doing so: a review of healthcare efficiency measures, for example, found that very few made any attempt to consider quality of care (Lethbridge, 2012). Lower operating costs may also conceal real additional costs for the public, which do not show up in analyses of the company costs alone. The public sector carries the extra 'transaction costs' of sales, tendering, monitoring and regulation; a low cost tender may be used to win a contract, but the contractor then renegotiates the price upwards – or the quality downwards – to become more profitable.

Most of the evidence discussed below does not cover the assessment of effectiveness – it is restricted to technical efficiency. The studies and reviews discussed here use a range of methodologies and definitions of technical efficiency. These different methods include measuring labour productivity, defined in terms of value added per employee, or 'total factor productivity', which also attempts to measure the efficient use of capital investments. Some use company profitability as a measure of efficiency, despite the fact that this can be at the

expense of higher prices to users or worse pay for workers. Some use measures specific to the sector: for example, the weight of refuse collected per employee, the number telephone connections per employee, or more general measures such as the percentage of the population with water and sewerage connections. These variations in definition are clearly very important for attempts to assess the effectiveness and efficiency of actual public services. But the comparative studies discussed in the following sections find similar results whatever definition they use. Moreover, many of these studies have been carried out by economists expecting to confirm a theoretical argument that privatisation is intrinsically more efficient, which makes the results more striking.

Many of these factors arise from the difference in objectives between private companies and the public sector. For the private company, the delivery of a public service or a public good is an externality; for the public sector, these results are its *raison d'être*. This does not need to mean that all acts and objectives of a private operator are always in conflict with public policy objectives and public goods, but the existence of two autonomous sets of objectives creates the permanent possibility of such conflicts arising in relation to general policy, operational policies such as staffing levels and training, and daily management decisions.

This conflict is presented as a central feature of Megginson's theoretical position on the advantages of privatisation (D'Souza and Megginson, 2007). Reducing the importance of the public policy objectives, and increasing the role of the firm's commercial objectives, is identified as the key aspect of privatisation which enables the firm to become more efficient: "state-owned enterprises have multiple objectives, some of which are inconsistent with the maximization of financial and operating efficiency. The ownership changes from privatization should help to redefine the firm's objectives and the manager's incentives." As a result of downgrading the non-commercial objectives, the managers can find "greater entrepreneurial opportunities", which can be seized through "restructuring of the newly privatized firms" (ibid.). So on Megginson's view, efficiency gains by the private sector actually *depend on* downgrading public service objectives where they hinder profit-maximisation – they are intrinsically *opportunistic gains at the expense of public interest objectives*.

2.3. The evidence: overall reviews

The major reviews of international literature and experience, covering a number of different sectors and service, now generally reach the conclusion that there is no significant intrinsic efficiency difference between public and private organisations. This is in sharp contrast to the review by Megginson and Netter (2001), which has been far the most cited on this issue (over 3000 citations according to Google scholar), despite the fact that it considered a much smaller set of studies than most of the others, and used data from a very diverse range of sectors, from which the authors concluded that, "Taken as a whole, the academic evidence now strongly favors private over public ownership of business enterprise on both efficiency and profitability grounds". Major flaws in this article are now apparent.

The most recent meta-review of empirical studies comparing the efficiency of public and privatised companies (Mühlenkamp, 2015, firmly concludes that: "research does not support the conclusion that privately owned firms are more efficient than otherwise comparable state-owned firms." He uses extremely strong language about Megginson and Netter, stating that: "The evidence indicates that these authors' conclusions were biased in favour of privatization despite the evidence indicating that the true picture is much more differentiated." He is savagely critical of the arbitrariness and selectivity of their material: "they initially consider 10

very heterogeneous and arbitrarily selected publications...one of [which] compares government financed and privately funded expeditions to the Arctic from 1819-1909.” Megginson and Netter also examined another 16 studies of efficiency changes post-privatisation, which include studies of the UK privatisations, and also studies which cover mass privatisations including shops in Russia and industrial firms in Czech republic, Mexico and elsewhere, using a range of different measures, including profitability and sales as well as productive efficiency. The article claims that, taken together, these 15 studies “document very strong performance improvements as a result of privatization... and speak with a consistent voice documenting privatization-induced output, efficiency, and profitability increases.” But Muhlenkamp again criticises the selection of these 16 as arbitrary (“virtually every imaginable industry”), criticises the use of diverse and irrelevant indicators, and also Megginson and Netter’s interpretation of some of the results. In the light of all this, it is remarkable that Megginson himself now references Muhlenkamp as the most definitive overview on the subject of comparative public-private efficiency (although he mistakenly states that Muhlenkamp covers only healthcare) (Megginson, 2017).

Muhlenkamp himself covers 16 major surveys, which themselves covered hundreds of studies. The surveys from the 1980s and 1990s reached diverse conclusions, despite considering many of the same papers: the reviews by Bennett and Johnson (1980) and De Alessi (1980) conclude that “the evidence is overwhelming” for the superior efficiency of the private sector, and Vining and Boardman (1992) conclude that “Ownership does matter and there is strong evidence of superior PC [Private corporate] performance” while Millward and Parker (1983) conclude equally firmly: “[...] that there is no systematic evidence that public enterprises are less cost effective than private firms”. Later surveys tend to support the ‘inconclusive’ position: Martin and Parker (1997) conclude that “On balance it seems that neither private nor public sector production is inherently or necessarily more efficient”; Villalonga (2000) covers 153 separate studies, and, despite the fact that most of these claim superior private efficiency, after taking account of variations in market structures and limitations in the measures of efficiency used, finds that “the evidence about which form of ownership is associated with a higher level of efficiency remains mixed”

Other studies and reviews reinforce his conclusions.

Knayzeva et al. (2013) identify a key flaw in most previous studies as their failure to take account of the fact that the operations selected for successful privatisation are always likely to be better performers than the ones which are not selected:

“The analysis of privatization effects on performance can be confounded by endogeneity, which is overlooked in most existing studies of privatization.⁵ The common observation in existing literature that privatizations improve performance may be due to non-random choice of state-owned enterprises to be privatized....this literature, for the most part, does not address the problem of endogeneity”.

Their huge study of over 2400 companies privatised by sale between 1980 and 2009 in Europe compared their performance with companies which remained public – and compared both sets with the previous performance of the companies. This enabled them to correct for the endogeneity problem, and also controlled for the effect of other factors, including differences in size, growth opportunities, income per capita, and competition. The analysis showed, with a high level of statistical significance, that privatised companies did worse than

those that remained public, and continued to do so for a period of 10 years: “the privatization group underperforms the group of sectors remaining public”. The authors add that this fits with the experience of Russia, where: “GDP declined with privatization – faster privatization did not lead to improved performance.” The same study also included a separate analysis of the comparative efficiency of telecoms companies, internationally, using a real measure of operating efficiency, telecom lines per employee, from the International Telecommunications Union (ITU): again, the finding was that “Privatized sectors perform significantly worse” (Knayzeva et al., 2013)

A global review by the World Bank – a major supporter of privatisation – of water, electricity, rail and telecoms in developing countries concluded that: “the econometric evidence on the relevance of ownership suggests that in general, there is no statistically significant difference between the efficiency performance of public and private operators in this sector... For utilities, it seems that in general ownership often does not matter as much as sometimes argued. Most cross-country papers on utilities find no statistically significant difference in efficiency scores between public and private providers” (Estache et al., 2005). A further World Bank review in 2009 of privatisations in former communist (transition) countries in central and eastern Europe, former Soviet Union, and also in China, examined 17 studies looking at total factor productivity and 10 studies looking at profitability. It concluded that “The most important policy implication of our survey is that privatization *per se* does not guarantee improved performance” (Estrin et al., 2009).

The pioneering UK privatisations provide no better results. Early studies found that most of the improvements in productivity came before privatisation, not afterwards: municipal refuse collection services improved as much as privatised ones (Bishop et al., 1994; Molyneux and Thompson, 1987); that “longer-lasting gains in economic efficiency have been lost” (Vickers and Jarrow, 1988, p. 428); and that there is “little evidence that privatisation has caused a significant improvement in performance” (Martin and Parker, 1997). A later comprehensive analysis of all the UK privatisations concluded with careful precision:

“These results confirm the overall conclusion of previous studies that... privatisation *per se* has no visible impact [on a company’s performance]. In conclusion, I have been unable to find sufficient statistical macro or micro evidence that output, labour, capital and TFP productivity in the UK increased substantially as a consequence of ownership change at privatisation compared to the long-term trend” (Florio, 2004, p. 343).

The most comprehensive review of international research on the effects of outsourcing was published in 2012 by the Danish institute AKF. It examined studies of the effects on costs and quality of services, and the impact on employees, including in the sectors of water, waste management, electricity, public transport, education, healthcare, social care, employment, prisons and other services. It concluded that: “it is not possible to conclude unambiguously that there is any systematic difference in terms of the economic effects of contracting out technical areas and social services” but also that “The consequences of contracting out for the employees are predominantly documented as negative in the literature...stress, illness absenteeism and attrition related to changes in working conditions should ideally be included in the calculation of the consequences for employees” (Petersen et al., 2012, p. 39, 48) An overview report by the SNS Centre for Business and Policy Studies also concludes that there is no clear evidence of any efficiency benefits arising from the private provision of welfare services or the increase in competition (Hartman, 2011).

2.4. Outsourcing, long-term efficiency and flexibility

Petersen et al (2012) also noted key methodological issues: the importance of assessing effects over time, not just the first year, to take account of loss leader bids; considering the improvements that would otherwise have happened if the service had remained publicly provided; comparing transaction costs; and evaluating the effect on employees as well as on company finances. These issues are all relevant to assessing whether observed immediate changes lead to systemic long-term improvements, or are just evidence of one-off opportunism.

Thus there is evidence of initial labour-shedding by private companies, but there does not seem to be any long-term efficiency gains from this. The PIQUE project compared long-term trends in productivity, from 1970 to 2004, before and after privatisation or liberalisation, in Austria, Belgium, Germany, Poland, Sweden and the UK (PIQUE, 2009). In electricity and gas, post and telecoms, the fluctuations over time showed clear signs that productivity was significantly driven by common, globalised technologies (such as combined-cycle gas generation of electricity, or the development of digital and wireless telecoms), but showed no evidence of being affected by privatisation or liberalisation. However, the drivers of productivity changed. Before privatisation or liberalisation, most productivity gains came from increased value-added (production), whereas the main driver of post-marketisation labour productivity increases was a relative employment decrease (PIQUE, 2009). These results echo the findings of an earlier study by Griffith and Harrison (2004) in relation to electricity, gas and water, which found that liberalisation and privatisation in the EU had a significant, large, and negative effect on employment in electricity, gas, water and telecoms, and that this was the main driver of the productivity improvements in all network sectors, except telecoms and air transport. But there was no lasting effect: the observed gains in labour productivity are nearly all accounted for by a “one-off” rise in productivity caused by labour-shedding, with no continuing dynamic efficiency after the initial restructuring: “deregulation and the transfer of ownership were associated with one-off changes in the level of productive efficiency, without creating any increase in longer-term dynamic efficiency.” Nor was there any effect on total factor productivity: “as was the case with labour productivity, we did not find any significant results using the growth of total factor productivity.” Across the economy as a whole the effect of deregulation and liberalisation was actually found to be negative: they “appear to be associated with lower levels of labour and total factor productivity” (Griffith and Harrison, 2004 pp. 138, 151, 141, 105; Denis et al 2004)

Evidence from the manufacturing sector provides some insights into these results. Outsourcing of elements of manufacturing has been an important element in globalisation, with the creation of “global supply chains”, and it is assumed that this outsourcing consistently improves efficiency. But a series of empirical studies has shown this is not the case. A study of 43,000 German manufacturing firms found that firms which had outsourced more work had significantly worse performance in terms of productivity (Gorzig, 2002); a study of 256 large and medium-sized firms in Sweden found that outsourcing delivered short-term reductions in labour costs but higher administrative overheads and worse logistical performance (Bengtsson, 2008); a study of consumer electronic multinationals found that firms “cut costs by increasing outsourcing ...[but] their technology base was weakened by excessive reliance on their outside suppliers over time.” (Kotabe et al., 2008); in internet banking services in the USA, the efficiency gains of outsourcing declined and then reversed: “outsourcing has a negative, linear effect on adaptability. Adaptability problems seem to be best performed in-house” (Weigelt and Sarkar, 2012); a study of Dutch and Brazilian firms found that extensive

outsourcing has a long-term negative effect on the market share of companies. Beyond a certain point: “market share actually decreases as a consequence of further outsourcing” (Kotabe et al., 2012)

A dramatic illustration of the problems was provided by Boeing’s attempt to reduce the costs of developing the Boeing 787, known as the Dreamliner, by outsourcing more than 70% of the production process – twice the usual proportion. As part of this, Boeing dismantled its division in charge of designing electronic controls and managing suppliers: over 1200 engineers were dispersed. Instead, overall coordination and design were also outsourced. This system broke down. The contractors were unable to coordinate or design effectively, failed to deliver what was required, and made the system more complex still by outsourcing part of their work to sub-contractors. The first plane was delivered three years late - and costs grew to three times the budgeted amount of \$5billion – about \$10billion over budget. To solve the problem, Boeing had to bring huge amounts of work back in house, by taking over the software and design contractors, at a cost of \$2.4 billion: “Boeing had to take over the control of the design so that they can really continue the development process” (Cherry, 2013).

These results show: “an outsourcing productivity paradox.... In the short-run, outsourcing firms are able to reduce costs. In the long-run, firms that engage in outsourcing suffer lower productivity growth than firms that do not engage in outsourcing” (Windrum et al., 2009). Outsourcing depends on “decomposing” work into standardised activities that can be repeated with minimal variation, but this limits the ability of the firm to experiment and adapt their organisation of production to changing circumstances: “adaptability gets compromised when firms outsource. This is because solving adaptability problems benefits from a common organizational language” (Weigelt and Sarkar, 2012).

Continual outsourcing thus impacts on the core process for generating innovation in production, by increasingly reducing the area available for managers to: “raise productive efficiency by identifying organisational architectures that more effectively integrates value-adding activities and administrative routines... large scale outsourcing restricts the scope for future organisational innovation, leading to lower productivity growth... it is managerial control of interrelated productive activities that matters, not ownership per se” (Windrum et al., 2009). This also fits with studies of recent re-municipalisations of services in Germany and elsewhere, which found that the single most common reason given for taking operations back in-house, or into public ownership, was to recapture control.

2.5. Sectoral studies

One of the problems identified with the Megginson review, and a number of studies which he references, was that it covered a random selection sectors, including many in manufacturing or retail, for example, which are not strictly relevant to real world policy decisions on privatisation. These decisions invariably concern specific sectors, typically those which provide infrastructure or public services of various kinds. Whatever the general picture across the economy as a whole, it is of considerable importance to know if the same results are obtained by looking at a specific sector which is the subject of a public policy decision, because any given sector may show divergence from the general pattern.

The table shows the sectors for which there are systematic reviews and major studies, internationally. In all sectors, the results show the same picture as the general ones: the evidence does not support the assumption of superior private sector efficiency.

Table 1 Sectors covered

		Sale of assets	Outsourcing	Concessions / PPPs
1	Buses		X	X
2	Electricity	X		X
3	Healthcare		X	X
4	Ports and airports	X		X
5	Prisons		X	X
6	Rail	X	X	X
7	Telecoms	X		
8	Waste management	X	X	X
9	Water		X	X

2.5.1. Buses

The most wide ranging international study of bus services covered 73 cities with different types of bus operators, in all continents – 29 from the EU, three from Eastern Europe, five from Australia and New Zealand, five from Canada, ten from the USA, three from Latin America, two from the Middle East, eight from the Far East, five from Africa and three from Japan. It found no significant difference in efficiency between public or private operators, and also found that efficient operators can be seen on all continents:

“Statistical tests do not show any significance as regards relationship between efficiency and the type of operator....The efficient cities ... are spread over different continents and public administration styles – Anglo-Saxon, Nordic and bureaucratic – and they are not concentrated in any specific type of operator.”

It also found that the factors which were significant for efficiency were fuel use, bus-kilometers, and speed (Pina and Torres, 2001).

In the USA, an analysis of over 400 public transport authorities over 9 years compared the cost per vehicle-hour of publicly operated bus services and contracted-out services. The study adjusted for selectivity, and the extent to which efficiency savings were due to lower wages in the private sector, and, unusually, took account of transaction costs. Although private contractors were on average 5.5% cheaper than public operators, after adjusting for these other factors the study found that there was no statistically significant difference in costs attributable solely to contracting-out. The study also found lower wages in the private sector, equivalent to a reduction in costs of about 18.6% (Iseki, 2010). A study of 72 bus and metro operators across Europe found that publicly owned firms had significantly lower productivity, but noted that this could be due to selectivity: “more productive and profitable firms have been sold to private shareholders, so that only less productive firms remain in public hands”, and also that it did not take account of service quality: “we have no data on service quality”. (Boitani et al., 2013) Country studies in Catalonia, Norway, and Portugal found no significant difference in efficiency between public and private operators, though the Portuguese study noted that this may reflect the fact that public companies operate mainly in dense city areas, while private companies operate on the city outskirts (Pina and Torres, 2001; Odeck and

Alkadi, 2001; Pestana Barros and Peypoch, 2010). A study in France found that privately operated bus services were significantly more efficient than public operators, though the efficiency difference were slight and all operators were found to be very efficient (Roy and Yvrande-Billon, 2007). In Sweden, where the great majority of services have been contracted-out since 1985, there is no evidence that this use of competitive tendering has reduced costs – rather, the cost per passenger trip increased sharply in real terms from 1986 to 2009, by between 28%-228%, and efficiency levels fell steadily from 95% to 60% (Holmgren, 2013).

2.5.2. *Electricity*

In electricity as in other sectors, the belief in superior private sector efficiency is not supported by empirical evidence. The empirical evidence includes a global study in 1995 by Pollitt, which compared dozens of public and private electricity operators all over the world, and found no significant systematic difference between public and private in terms of efficiency (Pollitt, 1995). Other studies of electricity privatisation and liberalisation have found similar results for both productivity and consumer prices. A 2013 study of productivity in electricity generation in 20 EU countries found mixed results on the relationship between public and private companies, and concluded that “the link between private or public ownership with TFP is not straightforward” (Del Bo, 2013).

Similar results have been found in developing countries. A 2002 study (Zhang et al., 2002) across developing countries found that the effect of privatisation alone was statistically insignificant on efficiency, except for capacity utilisation. A global review in 2005 by the World Bank of the evidence on utility sectors, including energy, concluded: “For utilities, it seems that in general ownership often does not matter as much as sometimes argued. Most cross-country papers on utilities find no statistically significant difference in efficiency scores between public and private providers” (Estache et al., 2005). A 2008 study of electricity companies in Africa found that levels of efficiency were broadly comparable across the region, and that the performance levels, and the changes in performance levels, were quite independent of the degree of vertical integration or the presence of a private actor. A more complex study by the World Bank’s privatisation agency, the PPIAF (Gassner et al., 2009), did find that private electricity companies were more likely to cut jobs, and so show productivity gains from this source. However, the study found no evidence of any benefits for the service in terms of higher investment, and indeed there was evidence both of higher prices and of actual reductions in numbers of household connections: any productivity gains were thus distributed to owners as increased returns on capital. Further studies have documented similar evidence that the expected impact on prices and performance is lacking in developing countries, compounded by limited progress on renewables (Dagdeviren, 2009; IEA, 2016A; Sen, Nepal and Jamasb, 2016).

Insofar as efficiency is reflected in prices, most international studies have found that private ownership of electrical utilities is linked to *higher* prices for consumers than public ownership. A 2000 study by the OECD of 19 countries found that privatisation was linked, significantly, to higher prices (Steiner 2000); a 2010 study of the same group of countries found the same result: “wholly private ownership of electricity operators [is] associated with prices that were 23.1 per cent *higher* than if ownership were wholly public”, while there were no significant efficiency gains from any of the unbundling and liberalisation reforms (Dee, 2010). A 2013 analysis of electricity *and gas* prices in 15 west European countries over a 30-year period found that “after

controlling for other factors, *public* ownership is associated with lower residential net-of-tax electricity prices” (Fiorio and Florio, 2013) and by a substantial amount: “the net effect is [a reduction of]...up to 30% on net-of-tax prices, or 20% on gross-of-tax prices” (Florio, 2014). In the same year, the prices of public sector electricity suppliers in the USA are about 13% lower than the prices of private companies (APPA, 2018). A 2007 study covering 83 countries found varying results – privatisation was linked to lower prices for industrial consumers in developed countries, linked to *higher* prices for households in Asian and CEE countries, but otherwise made no significant difference” (Nagayama, 2007).

Following privatisation in the UK, electricity prices performed no better than in other countries, such as France, which did not privatise. Although there was a reduction in costs after privatisation (about 5%) these cost savings were more than offset by the higher profits extracted, except for the largest industrial consumers, so that consumers “seem to be paying higher prices than they would have under public ownership” (Newbery and Pollitt, 1997), by as much as 10% to 20% (Branston, 2000).

Table 2 Public-private price differences in USA and EU

	Public energy provider price is lower than private company price by:	Source
USA	-12%	APPA, 2015
Europe (EU15)	-20% to -30%	Florio, 2014 ; Florio and Florio, 2013

In the electricity sector privatisation was reinforced by “reforms” of the sector which were designed to create competitive environment by separating the ownership and operation of the grids from generation, and both from supply. The reforms have however not necessarily succeeded in creating competition, and the impact on efficiency has been negative according to a number of studies.

A study of comparative efficiency in the USA at the system level found that electricity systems in deregulated states “have lower productive efficiency, and have also experienced decreases in efficiency over time. In particular, the vertical separation of generation, a hallmark of an effort to deregulate the industry, is associated with an adverse impact on productive efficiency” (Goto and Makhija, 2009). These losses were quantified in a further study (Meyer, 2012), covering both Europe and the USA, which found that unbundling transmission and distribution networks results in 2%–8% efficiency losses due to the loss of coordination, and the separation of retail and generation can increase costs by 20% or more, due to the increased risk for both generators and retailers.

In 2009 the Electricity Journal published a global review of liberalisation and deregulation in the USA, EU and other OECD countries, written by the director of the Electricity Consumers Resource Council (ELCON), which represents industrial consumers of electricity in the USA, who were expected to benefit from deregulation. The review identified a pattern of problems recurring across countries, including higher prices, “gaming”, oligopoly, lack of competition, lack of investment or innovation, and consumer opposition, concluding that: “the structure of

today's 'organized markets' is neither competitive nor sustainable" (Anderson, 2009). The most damaging episode occurred when California decided to liberalise its electricity market in 1999, but the following year the state experienced months of blackouts and price spikes, as a result of "suppliers exercising market power" (Joskow and Kahn, 2002): the only part of California to escape the blackouts was the city of Los Angeles, which continued to be supplied by a public sector utility. Other blackouts and failures in deregulated and liberalised systems occurred in 2003 in the northeast USA, Italy, Switzerland, southern Sweden, and Malaysia (Hall, 2004).

2.5.3. *Healthcare*

The international evidence, and evidence from individual countries, strongly suggests that public providers have higher levels of technical efficiency than the private sector in healthcare. Public financing and provision of healthcare is also far more effective than private provision in delivering better health, including longer life and lower infant mortality rates – see section 5 below.

A report in 2010 for the World Health Organisation (WHO) surveyed the global evidence on the comparative technical efficiency of public and private providers of healthcare. The largest study was a systematic overview of 317 papers, which concluded that: "public provision may be potentially more efficient than private... Summary statistics showed average for-profit hospital efficiency levels at 80.1%, not-for-profit at 82.5%, and public at 88.1%" (Hollingsworth, 2008; Hsu, 2010).

The wastefulness of private-based healthcare comes not just from its selectivity but from its administrative overheads and use of unnecessary treatments. A report by the Institute of Medicine on healthcare in the USA found that:

"30 cents of every medical dollar goes to unnecessary health care, deceitful paperwork, fraud and other waste. The \$750 billion in annual waste is more than the Pentagon budget and more than enough to care for every American who lacks health insurance....Most of the waste came from unnecessary services (\$210 billion annually), excess administrative costs (\$190 billion) and inefficient delivery of care (\$130 billion). Repeating colonoscopies, early imaging for back pain, and brain scans for patients who just recently had them or didn't need them are examples of wasteful care" (Basu et al., 2012).

A 2012 review of the efficiency of healthcare delivery in developing countries looked at a range of research studies, including case studies, meta-analysis, reviews, case control analyses and NGO reports from countries in South Asia, East Asia, Pacific, Sub-Saharan Africa and Latin America. It found that there was no evidence to show that the private healthcare sector is more technically efficient or effective than public providers: "Studies evaluated in this systematic review do not support the claim that the private sector is usually more efficient, accountable, or medically effective than the public sector" (Basu et al., 2012).

A review of 33 studies of NHS services in the UK examined evidence on outsourcing of cleaning, facilities management, "out of hours" medical services, treatment centres, clinical services, and IT. It found negative impacts of outsourcing on service quality in 18 cases and positive impacts in four cases. The study concluded that: "much of the evidence demonstrates either the negative aspects of introducing competition into the provision of health care

services or inconclusive results...overall, there is a lack of evidence to show that outsourcing leads to improved quality of patient care” (Lethbridge, 2013).

“New public management” (NPM) techniques, including outsourcing, have not delivered greater efficiency in Spain. A recent study of NPM in Madrid hospitals looked at the number of hospital beds, doctors and nurses as inputs, and hospital discharges and outpatient visits as outputs (and also deaths in hospital and patient readmissions as undesirable or negative outputs). It concluded: “We do not find evidence that NPM hospitals are more efficient than traditionally managed ones... there is no difference in terms of technical efficiency between traditionally managed hospitals and those adopting new management formulas” (Alonso et al., 2015).

A comprehensive study of the impact of privatisation on all forms of social services in Sweden could find no evidence of improvements in efficiency or quality. The study covered all major welfare areas: preschool, school, individual and family care, health and medical care, labour market policy and care of the elderly and disabled. It concluded that:

“there is a remarkable lack of knowledge of the effects of competition in the Swedish welfare sector. On the basis of existing research, it is not possible to find any proof that the reform of the public sector has entailed the large quality and efficiency gains that were desired” (Hartman, 2011).

2.5.4. *Ports and airports*

Ports and airports have been developed over the years by governments and municipalities, because they are crucial for international trade and travel, and so are important to the development of local economies. Since the UK privatisations of British Airports Authority and Associated British Ports under the Thatcher government in the 1980s, there have been privatisations (and liberalisation), in both high income and developing countries, including in Germany, Australia, China, Malaysia, and elsewhere. Many recent and proposed privatisations take the form of PPPs, notably in India, and also the USA. The World Bank has actively encouraged these privatisations and PPPs, and they are included in conditions of IMF loans, for example Portugal. Especially with airports, there has been controversy over the performance and impact of these projects.⁵⁹

A review article published in *Transport Policy* at the end of 2012 (Gong et al 2012) found that the empirical studies do not support the widespread policy assumption that ports and airports will be operated more efficiently as a result of privatisation:

“The results... of the airport and seaport industries do not provide clear patterns of superior performance associated with particular forms of ownership or organization... A main conclusion of our paper is that there is not yet enough empirical evidence to enable a reliable assessment of the extent of success or failure of airport and seaport privatization programs. Until then, a healthy dose of skepticism is recommended when considering any

⁵⁹ For an account of the position as at April 2013, by supporters of privatisation, see: <http://reason.org/news/show/apr-2013-airport-privatization>; the ICIA provides country profiles on airport sector http://www.icao.int/sustainability/pages/Eap_ER_Databases_CaseStudies_ANSPs.aspx; for problems with airport PPPs in India, see <http://www.economist.com/news/finance-and-economics/21568397-indias-love-affair-public-private-partnerships-faces-stern-test-rippp>.

proposed privatization program proposed on the grounds of (mere) potential efficiency gains” (Gong et al., 2012).

The majority of the studies reviewed have concluded that there is no empirical evidence of superior private sector efficiency. Similar results appear across time and across different types of country.

- A 1999 study of the performance of the UK airport operator BAA, covering the years before and after its privatisation, concluded that “privatisation had no noticeable impact on technical efficiency” (Parker, 1999).
- Comparative studies of the largest container ports in the world, published in 2000 and 2001, found that public or private ownership did not seem to have any significant influence on efficiency (Notteboom et al., 2000; Valentine and Gray, 2001).
- Studies of over 100 of the largest airports in the world, published in 2006 and 2008, found significantly better performance by private airports in general, but that public sector airports in the USA were just as efficient as their counterparts; and also found that airports with private majority ownership derive a much higher proportion of their total revenue from non-aviation services (Oum et al., 2006)
- A 2005 study of container ports found that privatisation had a variable effect on efficiency, and that port size was the most significant factor (Tongzon and Heng, 2005).
- Comparative studies of public and private Chinese airports published in 2008, found that the form of ownership had no statistically significant effect on productivity growth (Fung et al., 2008)

2.5.5. Prisons

Prison privatisation started in the USA in the 1980s, was introduced into the UK and Australia in the 1990s, and had also been used in France, Brazil and South Africa. The policy is highly contentious in all countries. The great majority of comparative studies concerned the USA, where prison privatisation has been introduced most widely and for a longer period.

A 2009 review of 12 studies on the comparative efficiency of public and private prisons, found that half showed private prisons as cheaper, a quarter showed public as cheaper, and the rest showed no difference: the average was that private prisons were 2.2% cheaper. On quality, the results for 45 different indicators were almost exactly split between public and private superior performance. The differences emerging from all studies were so small that they could not justify one choice or another:

“Results suggest privately managed prisons provide no clear benefit or detriment. Cost savings from privatizing prisons are not guaranteed and appear minimal. Quality of confinement is similar across privately and publicly managed systems, with publicly managed prisons delivering slightly better skills training and having slightly fewer inmate grievances” (Lundahl et al., 2009)

This conclusion echoed that of previous overviews. A meta-analysis in 1999 focussed on comparative cost efficiency, measured by cost per prisoner day, and found that the differences were insignificant: “The results revealed that private prisons were no more cost-effective than public prisons, and that other institutional characteristics—such as the prison’s size, age, and security level—were the strongest predictors of a prison’s daily *per diem* cost”

(Pratt and Mahs, 1999). A review in 2003 analysed results on both cost-efficiency and quality of service. On costs, it concluded firmly that “the existing cost comparisons offer little in the way of firm conclusions about whether turning over the responsibility of managing prisons to the private sphere will result in any substantial and/or consistent cost savings”; and on quality, that: “the studies are too methodologically diverse (and often too methodologically weak) to draw any firm conclusions” (Perrone and Pratt, 2003).

Specific studies show a range of results and identify the importance of other factors affecting efficiency. For example, a study of three closely matched prisons in Louisiana – 2 private and 1 public – found that the private prisons were cheaper per inmate day, and also reported fewer critical incidents; but the public prison had fewer escapes, fewer sexual assaults on inmates, better systems for controlling drug abuse, and provided a wider range of educational and re-habilitation services (Archambeault and Deis, 1998).

A study of evidence from Brazil, France and the USA found different patterns of outcome from public and private prisons in terms of costs and quality. It noted variations in the levels of discretion, pay and conditions, and monitoring, and concluded that ownership was not the key factor. A further analysis by the same authors suggested that adequate private performance depended on “on-site public supervisors with strong career concerns...[ability] to learn from experience of public supervisors...and external constituencies monitor the outcomes of the arrangement” (Cabral and Saussier, 2013; Cabral et al., 2013).

In the UK, the comparative evidence remains contentious. A new report in July 2013 found that two out of 12 private prisons were officially rated at the lowest grade (compared with only one out of 120 publicly-run prisons). A review in 2012 stated that:

“There is a dearth of empirical evidence assessing the relative cost effectiveness of privately run prisons. The most recent comparative study is over 10 years old (1998-99), and was sponsored by the Home Office... The report found that privately operated prisons offered an average savings of 13% in cost per prisoner. This figure has sparked disagreement... It has been difficult to resolve this area of disagreement since financial information on private prisons is currently kept confidential” (Institute for Government, 2012).

Another recent analysis of prison privatisation in the UK addresses the issue of system efficiency. A wide range of performance indicators were introduced to monitor the performance of individual prisons, each run with a separate contract. The analysis found not only that this monitoring by targets became burdensome, but also diverted attention onto individual prisons instead of evaluating the system as a whole, showing:

“how difficult it is to draw boundaries around the performance of individual prison entities. The reduction of re-offending, for example, could not be measured at the level of individual prison establishments, because of the frequent movement of prisoners in between prisons. Also inter-organisational activities, for example, in the form of information exchanges and mutual aid, remained unaccounted for. All this contributed to a decentring of Prison Service accountability and a shift in emphasis from the Prison Service as a whole to individual prison entities. We observe a ‘narrowing of the basis of accountability’ Notions of failure and failing came to be connected to individual, failing prison organisations, rather than the prison system as

whole. Attention has been deflected from issues concerning the roles of the prison in society, alternatives to imprisonment, and general criminal justice issues” (Mennicken, 2013).

2.5.6. *Rail*

The relative efficiency of railways is affected by many factors, including treatment of capital costs, subsidies, public objectives, density of networks, size of the country, extent of electrification, relationship between freight and passenger transport, integration of train operation and track maintenance, and alternative transport modes such as road, air and water.

A recent report surveying international evidence on factors affecting railway efficiency summarises the evidence on the effect of privatisation itself as “mixed”:

“Privatization efforts in the past two decades have shown mixed results. In some cases, privatization has resulted in improved performance and higher cost efficiency. In other examples, privatization of railways has resulted in the neglect of rail assets to achieve short term financial improvements, higher refinancing costs and (increased) equity yield rates... Significant drawbacks can result from privatization, but Mexico has seen strong growth as a result of privatization in the 1990s” (Beck et al., 2013).

In the UK, prior to privatisation, British Rail (BR) achieved substantial productivity gains by sectoral reorganisation in the 1980s. In some international comparisons, BR appeared as amongst the most efficient operators. However, the initial productivity improvements under the private sector were not so good: “Gains made in the early period of private sector management... are not as high as those made in the later period of public sector management” (Cowie, 2010). After the unbundling and privatisation of UK railways in 1996, the productivity of train operating companies initially rose, principally as a result of reductions in staffing levels. But it then deteriorated, and by 2006 was worse than at the start: “a given set of passenger rail services in 2006 cost 12% more in real terms than it did at privatisation”. Costs fell again after 2006, but still remained higher than at privatisation: and “it remains the case that passenger rail franchising in Britain has failed to reduce costs in the way experienced in many other industries and in rail elsewhere in other European countries” (Smith et al., 2010). Government subsidies declined in the early years, but increased again, at the same time as productivity fell. The quality of service was also affected, most brutally in the lower standards of track maintenance which led to a number of major accidents, but also in higher levels of train cancellations (Cowie, 2009). An official report (McNulty, 2011) concluded that the objectives of privatisation have not been achieved, including expected efficiency gains, and that rail fares are already too high. Rather, the report found that efficiency had not improved, and the complex relations and transactions involved in an unbundled system: “Unit costs per passenger kilometre have not improved since the mid 1990s... costs ought to be 20-30% lower. Further benchmarking has identified an efficiency gap of 40% against four European comparators”; “among the principal barriers [to efficiency] are fragmentation of structures and interfaces, the ways in which the roles of Government and industry have evolved, ineffective and misaligned incentives, a franchising system that does not encourage cost reduction sufficiently...”

2.5.7. *Telecoms*

There have been great advances in telecoms technology and use and access in the last 25 years – but international studies show that in this sector, too, efficiency gains are not due to privatisation.

In fact, the most recent global study comparing private and public companies found the opposite. It analysed the operating efficiency of countries which had privatized between 1990 and 2000 and countries whose telecom sectors remained public, as measured by line connections per 1000 employees. It looked at the long-run performance before and after privatisation compared with the long-run record of companies which remained public, and found that, although both privatised and public companies improved efficiency: “privatized sectors perform significantly worse” than companies which continued to be state-owned (Knyazeva et al., 2013).

A further study by the same team (Knyazeva et al., 2009) measured performance of 54 telecoms companies in a range of countries by the proportion of people connected to the phone network, levels of investment, and total telecoms revenues, confirmed that privatised industries did not perform better than public sector companies after prior performance was taken into account, and that privatisation itself made no significant contribution to performance. Instead, they found that access to finance for investment made the crucial difference – it was the constraints on borrowing that held back firms in the public sector. A study of 31 telecommunication operators from countries in all regions of the world between 1981 and 1998 found that privatisation had no significant effect on output per employee – and that competition had a significantly *negative* effect – whereas higher salaries had a significant positive effect on efficiency (Bortolotti et al., 2002).

A study of long-distance, international and mobile telephony in 23 OECD countries between 1991 and 1997 found no connection between performance – in terms of lines, mobile subscribers and international calls per 100 employees – and privatisation: “no clear evidence could be found concerning the effects on performance of the ownership structure of the industry”. It did however find evidence that “productivity levels are negatively influenced” by the prospect of privatisation; and competition, and the prospect of it, were linked to productivity improvements – though not to price reductions. Factors specific to each country had a much greater effect on both price and quality than all the impact of privatisation and liberalisation combined (Boylaud and Nicoletti, 2001).

A cross-country study of the impact on consumer prices of European telecoms liberalisation and privatisation found that the price of international and national phone calls were significantly reduced by an increase in the number of mobile phone users, and by higher levels of investment – but liberalisation and privatisation themselves made no difference. The authors conclude:

“The findings suggest that ownership change, from public to private, plays no role or a very limited one in explaining prices of international, national, local calls, and connection charges... Overall, it seems that technology and demand factors... have much more explanatory power” (Bacchiocchi et al., 2011)

A comparison of the performance of all major European telecoms operators between 1978 and 1998, measuring both in terms of profit margins and labour and total factor productivity, found that growth rates in both labour productivity and total factor productivity were generally worse after liberalisation was introduced around 1995, and so concluded that it was “difficult to find a consistent pattern of performance improvement linked to either privatisation or the anticipation of market liberalisation”. The role of technology was ignored as the technological innovators are not the telecoms companies themselves but the phone and equipment manufacturers – adoption of technology was thus a matter of competent shopping (Dassler et al., 2002).

In Ireland, the state-owned telecoms company Eircom was corporatized in the 1980s, and privatised in 1999 by flotation. The company achieved significant growth in total factor productivity in the 1980s and 1990s – the best performance in Europe, leaving it as efficient as any European telecoms company by the time it was privatised (Dassler et al., 2002; Pentzaropoulos and Giokas, 2002) – due to both cuts in employment, investment in new technology, internal reorganisation, and the prospect of liberalisation – but this slowed after privatisation. It was subsequently taken over by private equity groups, which increased its debt levels enormously, resulting in bankruptcy in 2012. Overall: “The lesson for policymakers is that privatisation will not necessarily result in improved performance” (Palcic and Reeves, 2013). By contrast, telecoms companies which are wholly or partly state-owned have been more successful in expanding internationally (Alonso et al., 2013).

Research on the development of mobile telecoms in the 1990s concluded that the development of digital technology and the licensing decisions of individual countries were the most important factors; that the introduction of competition had relatively little impact; and that incumbent telephone companies were not obstacles to development: “the effect from technological innovations has been much stronger than the effect of increasing the number of firms” (Gruber and Verboyen 1999).

2.5.8. *Waste management*

Systematic reviews of empirical studies in waste management and water from different countries concluded that “private production of local services is not systematically less costly than that of public production” (Bel et al, 2010). The same result emerged from a formal statistical analysis of 27 *econometric* studies of the waste and water sectors in several countries:

“there is no statistical support for an empirical effect of private production on costs ... costs are dependent on service characteristics, geographic area, and time period of the study.. We do not find a genuine empirical effect of cost savings resulting from private production” (Bel et al, 2010).

Both international and national studies of waste management have concluded that there is no significant difference between the costs of public and private provision in comparable circumstances.

Many of these studies identified other factors which were more significant in terms of their impact on efficiency, in particular size. In Japan, for example, areas with many small islands tended to have less productive waste management; in Spain, small municipalities that operate a joint service are more efficient than those that operate their own; in Italy, the use of

separated or non-separated waste collection. In India, formal systems of municipal waste collection remain under-developed, and a national survey concluded that “lack of resources such as financing, infrastructure, suitable planning and data, and leadership, are the main barriers” (Sharholly et al., 2008).

Studies in individual countries have come to similar conclusions. A 2013 study of waste collection in Wallonia, the French-speaking region of Belgium concluded simply: “public operators perform no worse than private operators” (“*Nos résultats montrent que, dans le cas de la collecte des ordures ménagères brutes, la production publique n’est pas moins performante que la production privée*”). Two-thirds of the work is carried out through intercommunal bodies, and two-thirds of them contract private operators (nearly all to one of two companies, Sita or Shanks). As the table shows, this is by far the most expensive form of refuse collection, measured by tonne collected: all inter-communal operations are more costly – the same result was found in Norway, where inter-municipal refuse collection services were found to be about 10% higher than services provided directly by a single municipality (Sørensen 2007) – but private ones most of all. Again, other factors are significant, but for public service objectives rather than efficiency: some municipalities have introduced bins with microchips that measure the weight of refuse, and this did not increase costs, but did lead to a significant reduction in the amount of refuse placed in bins (Gautierand Reginster, 2013).

Table 3 Belgium: cost of public or private waste collection by commune or inter-communal body

Method of collection	Share of service in region	Cost per tonne of refuse collected
Intercommunal : private	45 %	622
Intercommunal : direct	20 %	406
Communal: private	31 %	389
Communal: direct	4 %	371

Source: Gautierand Reginster 2013 tableau 2, graphique 2

In Spain, studies published in 2008 and 2013 found that public provision is cheaper or the same as private provision. An analysis of costs of street cleaning and waste collection services in Spanish municipalities with a population over 50000 found that: “There is no difference between the inefficiencies observed in municipalities managed directly by town councils and those which have been transferred to private companies” (Garcia-Sanchez, 2008). A further study of small and medium local authorities found that “public service provision via a provincial or local public company is the management form presenting lowest levels of waste collection costs...even direct management by the local authority produces lower costs than those associated with contract” (Zafra-Gomez et al., 2013).

In Italy, a major study published in 2009 examined comparative costs between direct municipal service, municipal corporations, PPPs, and private contractors, and found that costs were affected by different systems (separated or non-separated waste), and size of the area serviced, but there were only slight variations between public and private: “no significant correlation can be found among the categories. This leads us to exclude any dependence of costs on management type, or on the introduction of private capital into the service companies” (Lombrano, 2009).

In the Netherlands, a large study based on data from all municipalities between 1998 and 2010, concluded that the apparent lower cost of private provision disappeared when other factors were taken into account: “the cost advantage for private companies, becomes substantially smaller and non-significant if municipal fixed effects are included” (Dijkgraaf and Gradus, 2013).

In Sweden, government data appeared to show that the cost of private refuse collection was 25% lower than the costs of public collection. But after adjusting for selectivity by firms and municipalities, and easier collection environments: “public production, on average, was 6 per cent cheaper than private production”. The only advantage of the private contractors was that they were better at shopping, so paid 10-15% less for their vehicles (Ohlsson, 2003).

In the UK, the most recent data on costs in 2010 shows that the average net total cost of waste collection is slightly lower (by about 3%) for municipalities which operate an in-house service. This data takes account of transaction costs, capital expenditure and income. Municipalities which outsource appear to have lower current expenditure, but they still employ staff costing over 5% of the contract value, to monitor the service, still pay for much investment, so capital costs are only halved, not fully transferred to contractors, and lose income worth more than 7% of the cost of the service (Ekosgen, 2011).

In Japan, raw data showed, in terms of waste volume per truck and per worker, public operators are far more productive than private sector operators. But this was largely due to the fact that contractors were mainly used on small islands, rather than the large cities. After adjustment for these factors, differences were not significant (Ichinose et al., 2013).

The apparent cheapness of waste management contractors' costs is frequently due to the low pay of private companies. In Germany in 2011, some contractors paid such poor pay and conditions that their workers claimed benefits. The German employers and the public sector trade union, Ver.di, have agreed a minimum wage for the sector that has been declared generally binding, to prevent such cut throat competition.⁶⁰

2.5.9. *Water*

In the water sector, a stream of empirical studies and reviews provide strong confirmation of the view that there is no significant difference in technical efficiency between private and public sector operators. These include both international and national studies. A systematic review in 2008 of the global literature on all aspects of efficiency in water supply concluded simply that: “there is no hard evidence which points to a causal relation between management ownership and efficiency” (González-Gómez and García-Rubio, 2008). Another international review, published in 2010, which analysed 27 empirical studies on comparative efficiency in water (and waste management) in various countries, concluded that “private production of local services is not systematically less costly than that of public production” (Bel et al., 2010).

A comprehensive study of water supply services in France, where about three-quarters of the service is delivered by the private sector through concessions or lease contracts, found that in 2004, after making allowance for all other factors, the price of water provided by private companies is 16.6% higher than in places where municipalities provide the service (Chong et al., 2006).

⁶⁰ [In- und Outsourcing in der kommunalen Abfallwirtschaft](#)

Empirical studies in the UK have found no significant improvement in productivity performance since privatisation. A study analysed the growth in productivity in the five years before privatisation, and the ten years after privatisation, and concluded that: “despite reductions in labour usage, total factor productivity growth has not improved since privatisation” (Saal and Parker, 2001). A further study using a different method showed that total factor productivity may have improved after 1995 but “neither paper finds any evidence of an increase in TFP growth that can be directly attributed to privatisation” (Saal, 2003). Since 1999 the performance appears to have got worse. A paper commissioned by OFWAT in 2004 found a decline in productivity growth rates after 2001. This study focussed on operating expenditure, but it also found that for the water only companies “capital efficiency appears to be declining... particularly after the 1999 price review” (Stone and Webster, 2004). A further study, published in 2007, with a further change in methodology, confirmed the broad picture, and concluded that: “while technical change improved after privatization, productivity growth did not improve... average efficiency levels were actually moderately lower in 2000 than they had been at privatization” (Saal et al., 2007).

So the private companies cut jobs more rapidly than was happening in the five years before privatisation, but, although labour productivity has risen slightly faster, when other factors are taken into account, including capital, the total factor productivity of the companies has grown less rapidly since privatisation than it was doing in the five years before privatisation: the RWAs reduced employment from 80,000 to 50,000 in 15 years between 1974 and 1989, an annual reduction of over 6% (Barraque, 1995). The studies also found that the companies had been increasing their prices faster than their increases in costs: “Moreover, total price performance indices reveal that increases in output prices have outstripped increases in input costs, a trend which is largely responsible for the increase in economic profits which has occurred since privatisation” (Saal and Parker, 2001).

The evidence for developing countries shows the same picture. A World Bank paper in 2005, reviewing studies on the water industry, worldwide, concluded that “the econometric evidence on the relevance of ownership suggests that in general, there is no statistically significant difference between the efficiency performance of public and private operators in this sector” (Estache et al., 2005). In Africa, a study covering 110 African water utilities, including 14 private, found no significant difference between public and private operators in terms of cost (Zhang et al., 2004). In Latin America, a 2004 study of about 4000 sanitation operations in Brazil found that there is no significant difference between public and private operators in terms of the total variation in productivity (Seroa da Motta and Moreira, 2004); a further study in Brazil, published in 2007, also concluded that “that there is no evidence that private firms and public firms are significantly different in terms of efficiency measurements”. A paper published by the Brookings Institute in 2004 also studied the growth in water and sanitation connections in cities in Argentina, Bolivia and Brazil, and concluded that “while connections appear to have generally increased following privatization, the increases appear to be about the same as in cities that retained public ownership of their water systems” (Clarke et al., 2004). In 2004 an Asian Development Bank survey of 18 cities in Asia, which included two cities with private sector concessions – Manila and Jakarta. These were performing significantly worse than most public sector operators on four indicators of coverage, investment, and leakage: on six indicators (unit production costs, percentage of expenses covered by revenue, cost to consumers of constant level of usage per month, 24 hour supply, tariff level, connection fee) their performance is middling, not outstanding; the private cities perform relatively well on two indicators: revenue collection efficiency, and minimizing the number of staff per 1000 connections (ADB, 2004).

Table 4 Selected Asian Development Bank water indicators for 18 Asian cities

		measure		Manila (private)	Jakarta (private)	Average of 18 public cities
Water Coverage	(%)	Higher better	is	58	51	79
Sewerage Access	(%)	Higher better	is	7	2	51
Capital Expenditure/Connection	(US\$)	Higher better	is	18	47	88
Non-revenue (leakage)	Water (%)	Lower better	is	62	51	34

Source: ADB, 2004.

3. Economic impacts: growth, employment and public goods

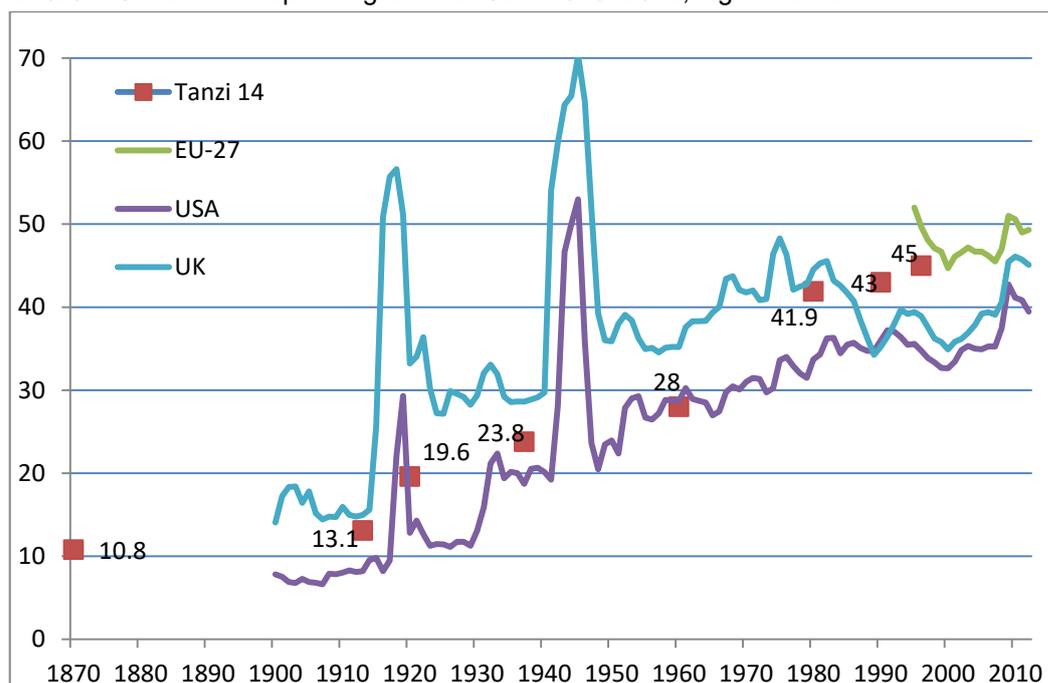
3.1 The long-term link between growth in public spending and economic growth

Public spending is often discussed as though it was a burden on a market economy, which would grow much faster if only public spending were cut back. But the economic history of the last 150 years shows exactly the opposite: that economic growth has gone hand in hand with a rising proportion of public expenditure since the mid-19th century. Public spending has not just risen in line with GDP, it has risen faster than GDP – and so has been rising as a proportion of GDP.

The can be seen in the chart, which presents data from four different sources, all of which show the same trends. Taxation and spending in high-income countries rose continuously throughout the 20th century as a proportion of gross domestic product (GDP), with peaks during the two world wars of the 20th century due to military spending. This is not just true of European “social democrat” countries; the same steady growth can be seen in the USA and in Japan. And the same pattern can be observed in each individual country, not just overall.

This long-run growth in public spending was used by public choice economists as evidence of the scale of the problem, showing the need for strong policies to minimise the role of the state (Buchanan and Tullock, 1977; Dunleavy, 2014). This would be a circular argument in purely economic terms, ignoring the actual economic growth that had happened in all countries over this same period. However, it was important as a self-consciously ideological political position: rational choice theory, centered on the strategic action of self-interested individuals, was seen as a core intellectual part of the political outcome of the cold war, and public choice theory was seen as a key element in this. So, alongside the economic and military victories over the Soviet Union, resisting the economic role of the public sector was seen as part of the strategy for protecting market capitalism: “the ideological triumph of democratic politics and market economics over the alternative philosophical order espoused by Karl Marx and his adherents...rational choice theory rebuilt the conceptual cornerstones of western ideals” (Amadae, 2003).

Chart A Government spending as % of GDP 1870–2012, high income countries



Sources: see note ⁶¹

The long-term rise in public spending appears to have levelled off in many countries from the 1980s and 1990s. Some analysts argue that this is because the economic advantage of public spending has come to an end in rich countries, because the burden of tax acts as an economic brake and offsets the benefits of public spending. But the same pattern of ‘levelling off’ can be seen in developing and transition countries, with far lower levels of public spending and taxation. In India, for example, the introduction of neoliberal policies in the 1990s halted the growth in public spending, until the election of a social democrat government in 2004 resulted in renewed growth in public spending. A better explanation for the levelling off is that trends in public spending depend on political decisions, and that neo-liberal politics have been dominant everywhere since the 1980s.

But the trend shifted sharply upwards again as a result of the economic recession of 2008-09. The crisis forced higher spending on benefits; and the initial policy responses, to stimulate recovery through higher government spending and borrowing, meant that globally, public spending leapt by 3% to 4% of GDP in one year.

This “long-run” link between public spending and growth is known as “Wagner’s Law” after the economist who first identified it in the 1890s, and has been confirmed by the majority of studies since then. An analysis by European Central Bank economists of 23 high-income countries from 1970–2006 confirmed “a structural positive correlation between public spending and per-capita GDP ... [and] a common development among the 23 countries and

⁶¹ The three lines on the chart are derived from data in: Tanzi and Schuknecht 2000 Public Spending in the 20th Century CUP Chapter 1 (covering 14 high income countries, including USA and Japan) <http://assets.cambridge.org/97805216/62918/sample/9780521662918wsn01.pdf>; Eurostat Government revenue, expenditure and main aggregates [gov_a_main] http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance_statistics/data/main_tables; USA Public Spending http://www.usgovernmentspending.com/spending_chart_1900_2015USp_15s1li011mcn_F0t; UK Public Spending http://www.ukpublicspending.co.uk/spending_chart_1900_2015UKp_XXc1li111tcn_F0t

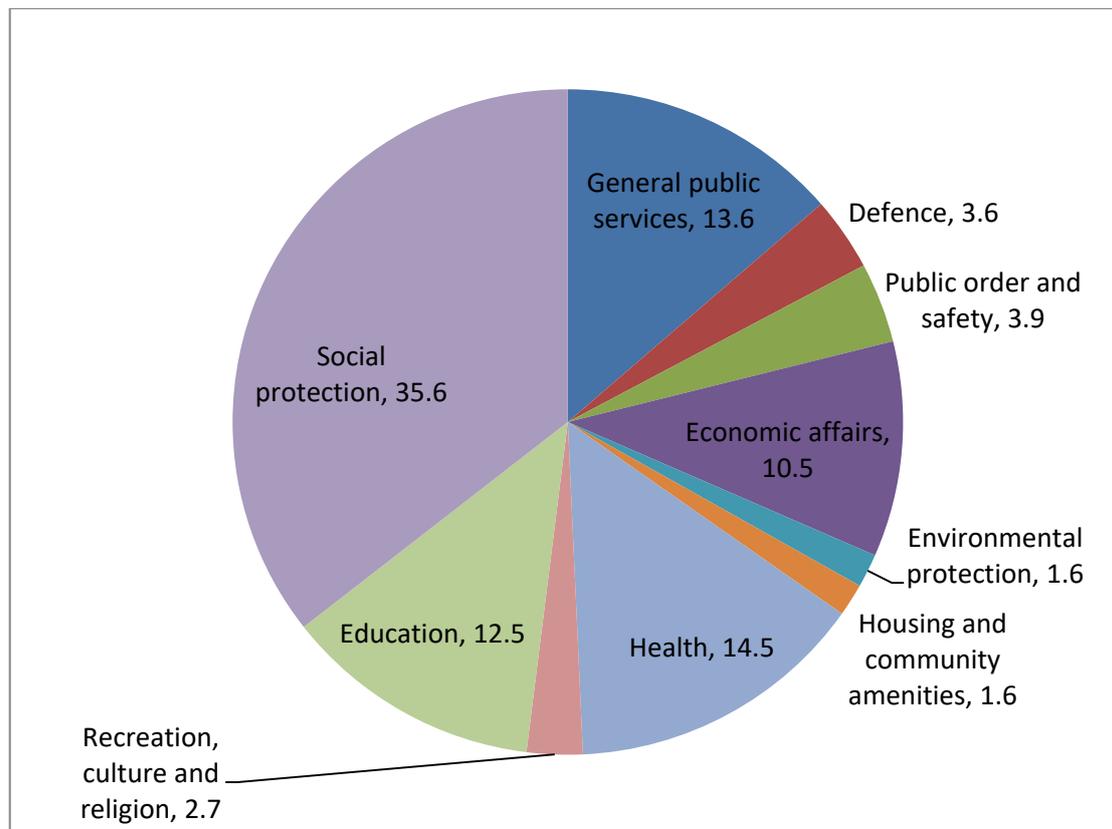
the widespread validity of the Wagner's law" (Lamartina and Zaghini, 2008). A study of 51 developing economies by staff at the International Monetary Fund (IMF) found that there was a consistent link across all countries, confirming "a long-term relationship between government spending and output consistent with Wagner's law" (Akitoby et al., 2006).

So growth in public spending is not a handicap to economic growth, but seems to be an essential part of economic growth and development, in all countries. Explanations for this link identify a range of ways in which a rising proportion of public spending helps economies:

- Public spending has a crucial role in investment in infrastructure. There are benefits to the whole economy from having good roads, railways, electricity and water supplies, but it is not profitable for private investors to build them. In all countries, infrastructure investment has been driven by the public sector (Aschauer, 1989).
- Public spending is a more efficient way of producing many services. Public spending on healthcare, for example, is much more efficient, in economic terms, and more effective, in terms of public health objectives, than private spending on healthcare (Beraldo et al., 2009)
- A healthy, well-educated workforce is more productive: "...when oriented towards health and education, such redistributive programs contribute as well to the quality of the labor force, and hence the growth potential of the economy" (Gintis and Bowles, 1982).
- Re-distribution of income increases consumer demand, because poorer people spend a much higher proportion of their income: "State-sponsored redistribution policies... place additional income in the hands of families with relatively high marginal propensities to consume" (Cameron, 1982).
- Public services are an efficient collective long-term insurance mechanism. In industrialised economies, a public system of collective support in sickness, unemployment, old age etc., replaces the role of the extended family in agricultural societies. Provision of public services and social security allows people to spend more instead of using savings to protect themselves.
- There is a general benefit to social and economic stability: "The possible patterns of economic evolution consistent with the no-welfare-state option include chaos, stagnation, and the development of new and perhaps unprecedented economic systems" (Gintis and Bowles, 1982).

The chart below shows the actual distribution of the functions of public spending in OECD countries.

Chart B Functions of public spending, OECD countries, 2011



Source: OECD 2013A

3.1.1. Infrastructure

Investment in electricity, water and sanitation, roads, rail, and telecoms has played a major role in the growth of high-income countries, and is equally crucial in developing countries. For example, much of the economic growth and productivity of the USA in its “golden period” in the mid-20th century was due to the growth in roads and energy infrastructure, the great majority of which was publicly financed (Field 2007, Calderon and Serven, 2008).

By contrast, government spending in Latin America on human and physical infrastructure in the 1980s and 1990s, “dropped precipitously” during the period when the IMF imposed its structural adjustment policies, and led to a fall in economic growth: “... a major portion of the per-capita output gap that opened between Latin America and East Asia over the 1980s and 1990s can be traced to the slowdown in Latin America’s infrastructure accumulation in those years”. Most South American countries have since deliberately paid off their loans from the IMF, to enable them to pursue more rational economic policies, in which public spending on infrastructure has played a key role. In 2007 Brazil launched a four-year programme for economic growth, (the Programa de Aceleração do Crescimento), based on the public investment of USD \$236billion in roads, electricity, water, sanitation and housing (Calderon and Serven, 2004; Jonakin and Stephens, 1999; Lora, 2007; Brasil Gov Fed, 2014).

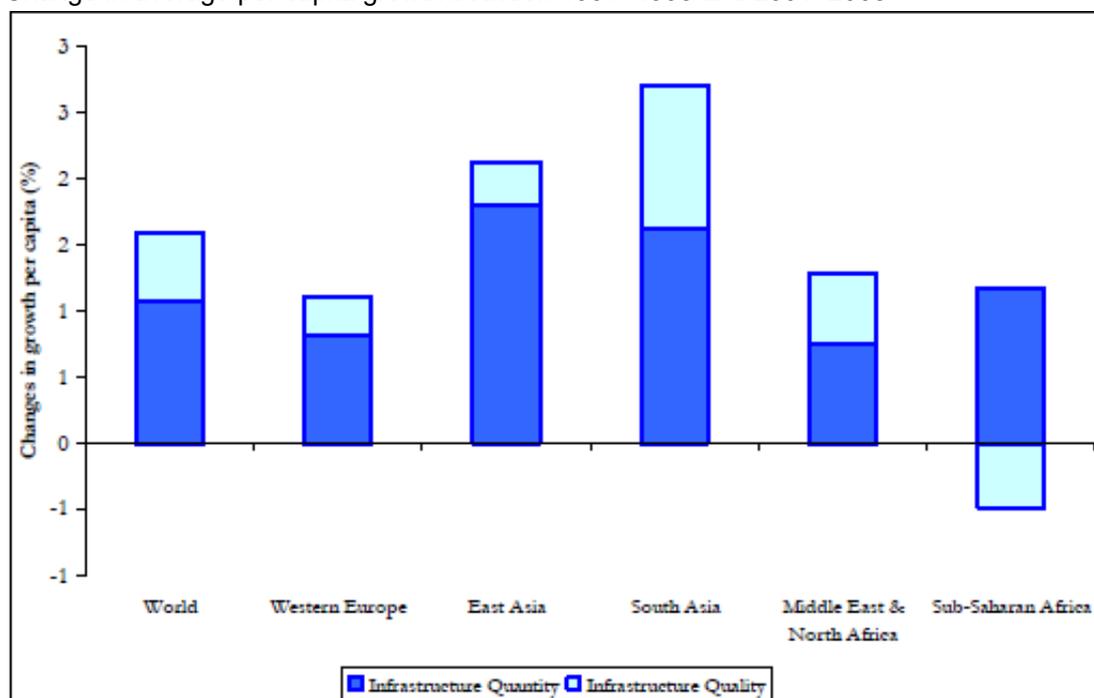
In Africa, by contrast, the level of infrastructure spending remains inadequate, for exactly the same reasons as in Latin America in previous decades:

“Spending has actually been on a declining trend in many countries, partly as a result of the disproportionate toll that the fiscal adjustment of the 1990s took on public infrastructure spending, and also reflecting the fact that private sector participation has failed to live up to expectations.”

A 2010 report on infrastructure investment in Africa found that the contribution of the private sector has been close to zero in water, electricity and transport: there has only been some private investment in telecoms: “the public sector remains the dominant source of finance for water, energy, and transport in all but the fragile states”. If Africa caught up with the infrastructure investment levels of other world regions, growth rates would increase by 1–2% (Calderon and Serven, 2008; World Bank/AFD, 2010).

Chart C Change in growth due to infrastructure development

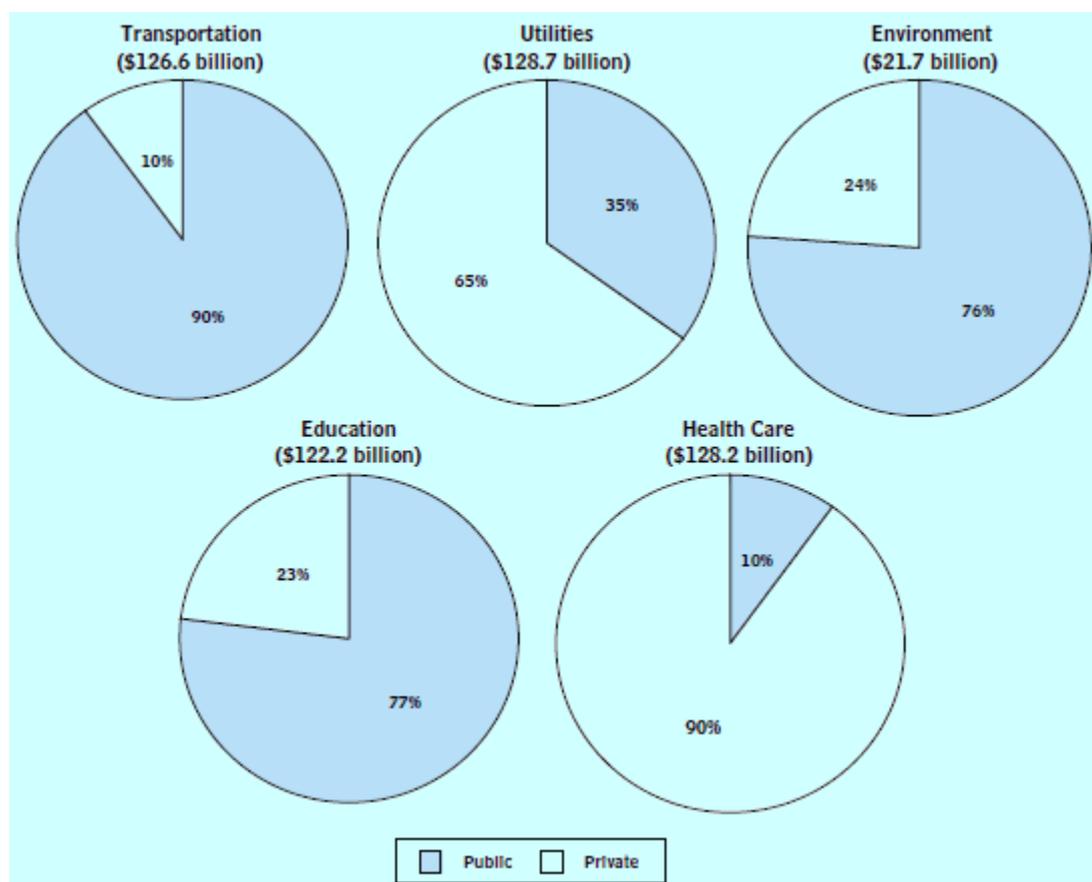
Change in average per capita growth between 1991–1995 and 2001–2005



Source: Calderon and Serven, 2008

The principal mechanism for financing infrastructure development, worldwide, is still through government and the public sector, even in technically advanced sectors such as telecoms. In Europe, private telecoms network operators are reluctant to make sufficient investment in the fibre-optic networks which are crucial to greater use of the internet, so the EU demands more public finance, calling on governments: “To draw up operational high speed internet strategies, and target public funding, including structural funds, on areas not fully served by private investments”. Even in the USA, where the role of the state is relatively small, Chart H shows that the great majority of investments in transport, education, and environment are public – and even 35% of utility investment is public sector; only in healthcare is the public proportion low (the only high income country where this is true) (EU, 2010; CBO, 2009).

Chart D Capital spending on USA infrastructure 2007



Source: CBO, 2009

3.1.2. Support for industry and innovation

Significant parts of public services support other economic activity by the private sector. These include the provision of a legal system, courts and police, which both protect property rights and provide ways of enforcing contracts. The modern company itself is a legal entity dependent on privileges given by the state, including “limited liability” which allows companies to fail and go bankrupt without the individuals running them being liable to any of the firm’s creditors.

Virtually every sector in modern economies relies on significant economic support from the state. In some sectors, in many countries, this takes the form of public ownership – for example of public transport, electricity and water – and, in many countries now, of banks and financial institutions. Many sectors depend on public spending for contracts for goods and services, which represents about 16% of GDP in high-income countries. This includes many firms in the production sector, such as arms manufacturers or pharmaceutical companies, both of which rely principally on government orders. Some firms in the services sector also benefit, as a result of outsourcing policies, for example in auditing, IT, or cleaning services. The construction industry benefits from long-term guarantees of government payments for public works contracts, under PPPs and under ordinary contracts. Governments and development banks lend money to companies at rates which they could not obtain commercially. Implicit and explicit guarantees are given to customers of European banks during the crisis – the only thing which makes banks ‘safe’ places to hold an account.

The private sector claims that innovation by entrepreneurs and corporations is the great driver of improved economic performance and living standards. But much of this innovation, even in high tech sectors such as pharmaceuticals, computing and telecoms, originates with the public sector:

- 75 per cent of the new drugs approved in the USA between 1993 and 2004 originated from research in the publicly funded National Institutes of Health (NIH) labs.
- Monoclonal antibodies, the foundation of modern biotechnology, were discovered by researchers funded by the UK government.
- The world-wide web, the internet, computers themselves were all developed by and in the public sector; and the US National Science Foundation funded the algorithm that drove Google's search engine.
- Apple got early funding from the US government's Small Business Investment Company, and made heavy use of government-funded research in the iPhone : "All the technologies which make the iPhone 'smart' are also state-funded ... the internet, wireless networks, the global positioning system, microelectronics, touchscreen displays and the latest voice-activated SIRI personal assistant." (Mazzucato, 2013; Wolf, 2013; Gordon, 2012).

The supportive role extends beyond innovation to the wider provision of efficiency-enhancing information and access to corporate finance. A study of local government assistance to firms in China (Cull et al., 2017) found that

"government provision of information about products, markets, and innovation and government assistance in arranging loans are positively associated with firm efficiency, and those private firms with weak access to and knowledge of financial, input, and product markets benefit most from such assistance."

3.2 Employment

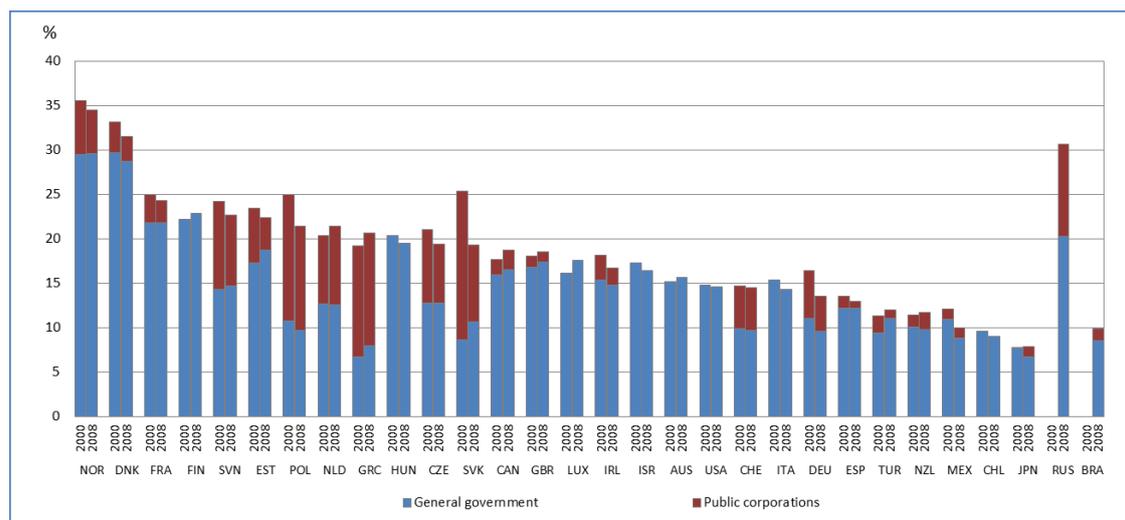
Public spending supports employment, in both high income and developing countries, in a number of ways:

- direct employment of public service workers;
- indirect employment of workers, by contractors supplying outsourced goods and services;
- employment of workers on infrastructure projects;
- extra demand and jobs from the spending of the wages of these workers and also of recipients of social security benefits (the "multiplier effect");
- subsidies to support employment by private companies, or by providing employment guarantees;
- providing formal jobs with decent pay and conditions;
- government procurement is used to require "fair wages" from private contractors, to reduce gender and ethnic discrimination, and strengthen formal employment of local workers.

The combined effect of these mechanisms is to support half the formal jobs in the world.

In OECD countries, employment in general government was on average about 15% of all employees in 2008, as shown in Chart I. There is a wide variation: in 2008 governments in Norway and Denmark employed close to 30% of the labour force, but the government of South Korea employed only 5.7%. The levels are higher when employment in public corporations is added, for example 4.0% of employees in Germany are employed by public corporations (OECD, 2008).

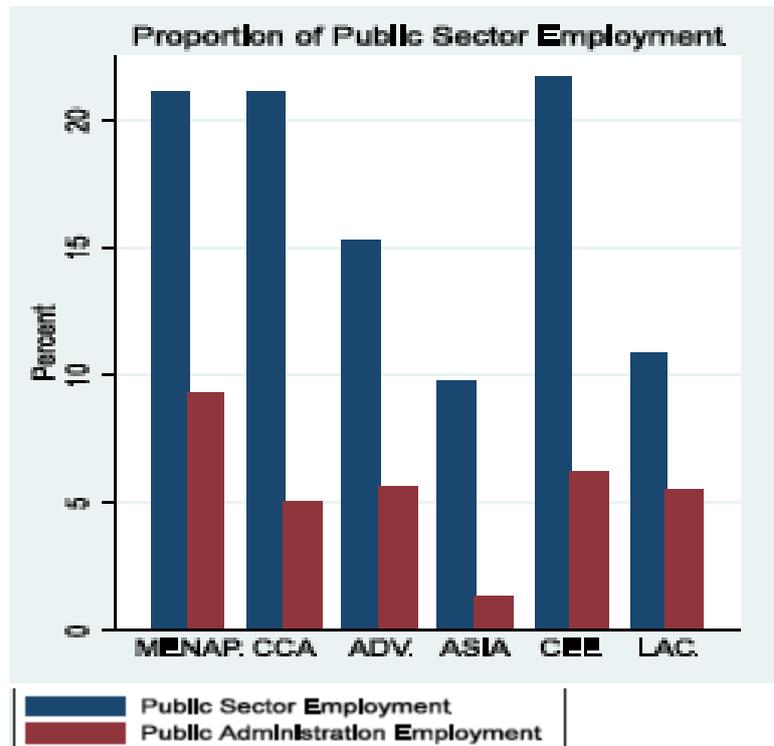
Chart E Employment in general government and public corporations as % of total labour force, 2000 and 2008, OECD countries



Source: OECD 2011

Data on public employment in developing countries is poor. The ILO estimated in the 1990s that on average in developing countries public employees accounted for about 23% of employees, slightly higher than high income countries. An recent IMF paper in 2013 estimated that public sector employment in eastern Europe, central Asia, Middle East, and North Africa was about 21%–22%, but in Asia and Latin America it was only 9% and 11% respectively; (it had no estimates for sub-Saharan Africa). The IMF figures for Asia reflect the data for the Asian and Latin American OECD countries of Japan and South Korea, Mexico, Chile and Brazil, but they seem to underestimate the role of the public sector in the world's two largest countries, India and China (ILO, 1999; IMF, 2013).

Chart F Public sector employment as % of total employment, developing countries



Source: IMF 2013

The public sector plays a key role in creating “formal” employment in developing countries – that is employment with defined pay and conditions, legal rights, and social security.

In India, about 84% of workers are in the informal sector, with no social security or employment rights, half of them classified as self-employed, and the largest numbers in agriculture. The remainder work in the formal (“organized”) sector, but even here, half the workers lack any formal rights. The result is that only about 8 per cent of all workers in India enjoy any statutory protection against such risks as sickness, maternity, disability and old age. The public sector is crucial for the supply of quality jobs. In 2008, 64% of those employed in the formal sector were public employees. It is especially important for women: only 5.2 million have the chance of quality jobs in the formal sector, and over half of those - are in the public sector, overwhelmingly in community and social services. But public sector employment has been slowly declining since the 1990s, as a result of deliberate policy decisions to reduce the size of the state. Between 1991 and 2008, the number of public formal sector jobs declined by 14 million, which was only just offset by a growth of 21m. private formal sector jobs (Papola and Sahu, 2012; Paul et al., 2011).

A similar pattern can be seen in Brazil. Although the OECD reports public sector employment in Brazil as only 10% of total employment, it represents a much higher proportion of formal employment. In the major cities of Brazil, 27.5% of workers with formal contracts are employed in the public sector – and for women the proportion is even higher, more than one-third (Daulins et al., 2012).

The table below shows estimates of the proportion of jobs supported by public spending, globally, including the additional jobs supported by the “multiplier effect” of consumer

spending. They are based, conservatively, on the estimates of the OECD and the IMF that general government employment represents about 15% of all employment, with a further 4% of employees in other state-owned companies.

The result is that:

- Public spending supports 40% of all jobs: 15% in the form of public employees, but a further 25% in the private sector supplying goods and services for governments and employees.
- Including the employment in public service utilities, public spending and public services support 50% of the jobs in the economy – twice as many in the private sector as in the public sector.

Table 4 Global jobs supported by public spending and public services (as % of all employees)

Public spending by category	Jobs supported	Multiplier effect of workers spending	Additional jobs supported by multiplier effect	Total	... of which	
					Public employees	Private sector employees
	As % of total employees		As % of total employees	As % of total employees	As % of total employees	As % of total employees
Direct public employees	15	1.6	9	24	15	9
Indirect private sector jobs from public procurement	6	2	6	12	0	12
Indirect private sector jobs from public construction	2	1.9	2	4	0	4
Total jobs supported by public spending	23		17	40	15	25
Public utilities (mixed public and private)	4	2.5	6	10	2	8
Total jobs supported by public spending and public services	27		23	50	17	33

Source: see note.⁶²

⁶² The table is constructed as follows. Direct public employees: median from OECD 2008 figure 8; Indirect jobs: using Oxford Economics 2008 estimated ratio of 1.2million jobs supported by £79billion spending, implying a jobs: spending ratio of about half compared with direct labour (5.2million jobs from £160billion spending), and assuming that the ratio of non-service procurement (£67million) is half of that again, so the overall employment effect of 8% of GDP spent on procurement (the OECD estimate 2008) is to support just over one-third of the jobs that would have been supported as direct labour; employment effect of construction spending taken from Scotstat. <http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/Input-Output/IOAllFiles2004>, implying a higher ratio of about two-thirds the effect of direct employment; public utilities, using an average of the figure estimate of 6% (CEEP, 2010) and the implied ILO 1999 figures of 4% and 2%. Multipliers for direct labour, construction and utilities are weighted averages of Scotstat multipliers for the relevant

Some countries have set up “Employment guarantee” schemes, which guarantee a specified amount of employment to workers who would otherwise be unemployed, usually involving employment on public works or infrastructure. Argentina, for example, in response to its economic crisis in 2000, introduced a scheme guaranteeing 20 hours work a week for a member of households with children under 18. The policy was once used in the USA in the 1930s, supporting up to 10 million people, and the idea has now been re-discovered by mainstream economists, including Atkinson, Stiglitz, Solow and Krugman, who describes it as an “old-fashioned idea but probably a very good one” (Komlos, 2018).

By far the biggest public employment guarantee scheme is in India. An employment guarantee scheme had existed in the state of Maharashtra for many years, and in 2005, against the background of widespread rural poverty, the government of India introduced a national scheme, known as the Mahatma Ghandi National Rural Employment Guarantee (MGNREG). This guarantees 100 days of work to one member of a rural household, on works decided locally as being of value to the community. It thus creates rights which strengthen the bargaining position of rural workers, and is demand driven. The scheme includes requirements for basic employment conditions, including a basic hourly minimum rate, a seven-hour day, a weekly day off, equal wages for equal work, medical and crèche facilities. These formalised rights are otherwise almost unknown to rural agricultural workers.

The scheme provides on average nearly 50 days’ work per year to over 50 million households – the equivalent of nearly half of the total jobs in Italy, France or the UK; 55% of those employed under the scheme were women, 22% from disadvantaged castes, 18% from disadvantaged ethnic groups; the average daily wage paid was 154 Rupees; and most of the works carried out were for water resources, irrigation, and roads. The scheme has had the effect of increasing agricultural wages in general, and rural household incomes have increased significantly as a direct result of income from the scheme, by as much as 15% in Andhra Pradesh, for example. The scheme has a positive impact on labour force participation generally, with an extra-large and significant effect for women (MGNREG, 2016; UNDP, 2010; Papola and Sahu, 2012; Chakraborty and Singh, 2018).

Public spending can also protect employment levels during recessions. In the 2008 crisis, Germany and other countries used short-time working schemes, under which public finance compensates employees who agree to maintain employment levels by reducing working time. The rescues of banks and companies which would otherwise collapse was also partly justified in terms of protecting the jobs of employees (EIRO, 2009). “Fair wages” policies have been applied to public sector contractors for over a century, in order to use the economic activity of public authorities to “create avenues of just and secure employment”. In France, the USA, the UK and other countries, “fair wages” legislation and clauses were introduced, specifying minimum conditions of work and/or the need to recognise rates agreed with trade unions.

The ILO adopted the principle of fair wages clauses in 1949, in Convention 94, which requires states to include clauses in their public contracts ensuring that wages (including allowances), hours of work, and other conditions of labour were not less favourable than those established for work of the same character in the trade or industry in the district where the work is carried out. The ILO encouraged its use in developing countries as a key instrument for establishing formal employment. It also adopted the use of procurement clauses for pursuing equality in

sectors, including induced effects: for procurement, the Oxford Economics 2008 implied multiplier of nearly 2.0 is used.

Recommendation 111, which advocates that commitment to equality principles should be a condition of eligibility for public contracts (ILO, 1949; ILO, 1958; ILO, 2008; McCrudden, 2004).

Box A Greater London Authority responsible procurement policy

The Greater London Authority (GLA) spends over GBP £3billion (USD \$4.8billion) each year on procuring supplies, works and services. It has adopted a comprehensive social procurement policy which includes standard contract conditions on employment issues. The policy is applied not only through contract conditions but through a series of meetings with suppliers and community organisations to ensure the policies are understood and supported.

The GLA's responsible procurement policy consists of seven themes:

- encouraging a diverse base of suppliers;
- promoting fair employment practices;
- promoting workforce welfare;
- addressing strategic labour needs and enabling training;
- community benefits;
- ethical sourcing practices; and
- promoting greater environmental sustainability.

The GLA sets a "London Living Wage" (LLW), significantly above the national minimum wage. In re-tendering its cleaning and catering contracts in 2006, bidders were required to indicate whether they would accept a LLW clause as part of the contract, including ensuring that other employment conditions were not reduced as a result of paying a living wage. It estimates that over 400 workers gained from implementation of the LLW in 2007. The GLA also applies 'supplier diversity requirements' on major contracts, such as the East London rail redevelopment, to ensure that smaller suppliers led by minority ethnic groups, by women and disabled people have received a significant proportion of subcontracts. It also monitors the supply chains of companies, for example suppliers of uniforms, and is piloting the use of a Suppliers Ethical Data Exchange (Sedex) – a system for companies to report labour conditions in all their suppliers factories (GLA, 2016).

3.3 Public goods

The purpose of public spending and public services is to achieve public objectives. These objectives include, for example, ensuring universal education and universal access to healthcare; environmental objectives such as the reduction of greenhouse gas emissions and management of waste; and economic objectives such as full employment. This section illustrates how the public sector has a comparative advantage in delivering three different types of public goods – healthcare; housing; and climate change.

3.3.1 Healthcare

Public spending represents the great majority of health spending in all OECD countries, except the USA (and Mexico). There is good reason for this. The comparative data shows that a healthcare system based on private spending, like the USA, is more expensive, and produces much worse results, than systems based on public finance: "learning health policy

lessons from the United States is rather like taking lessons in seamanship from the crew of the *Titanic*" (Ranade, 2014).

The ineffectiveness of private healthcare spending can be seen in Table 5, which compares the performance of the USA with that of Belgium and Cuba. In all cases, public spending on healthcare is at similar levels, as a proportion of GDP. The USA however also spends over 9% of GDP on private healthcare - the only country in the world with anything like such a level of private healthcare spending. This huge extra spending however appears to deliver no benefit at all – the health outcomes are in fact significantly worse than in either Belgium or, remarkably, Cuba – a much poorer country (OECD, 2013B).

Table 5 Public and private healthcare spending and outcomes in USA, Belgium, Cuba (2011)

	Public spending on healthcare (% of GDP)	Private spending on healthcare (% of GDP)	Life expectancy at birth (2010)	Infant mortality rate (2011)	GNI per capita US\$(2011)
USA	8.29	9.10	78.2	6.4	48450
Belgium	8.17	2.71	79.9	3.5	46160
Cuba	9.72	0.91	79.0	4.5	5460

Sources: OECD, 2013B.

Higher *public* spending on healthcare produces better health outcomes for everyone. But higher *private* spending on healthcare actually seems to have the opposite effect. An analysis of 163 countries found that “an increase in public funds is significantly correlated with a lower infant mortality rate” but “private health care expenditure is associated with higher, not lower, infant mortality rates”. So if private spending on healthcare could be converted into public spending on healthcare, the global annual total number of child deaths could be cut by around 2 million (Tacke and Waldmann, 2011; OECD, 2009; Pearson, 2009; Beraldo et al., 2009).

The delivery of these results is not simply a matter of technical organisational management and micro-economic efficiency. It is also a function of social political processes which can generate a much greater public benefit, of which Sri Lanka provides a good example.

Box B Sri Lanka

The Sri Lankan health system shows the importance of public and political commitment, and the capacity of workers, in the effectiveness of public healthcare. It spends less in absolute and relative terms than comparable countries but achieves better health indicators than some European countries. It does so by providing levels of access to medical services comparable to a developed country.

“All government health services, with few exceptions, are available free to all citizens... from antiretrovirals for HIV/AIDS patients to coronary bypass surgery... Access to health care is treated as a fundamental social right and thus not subject to arbitration... This attitude... has been a critical success factor ... government services continue to be used by and accountable to all in society, including the influential middle classes and urban elite who have

remained political supporters of good quality government services. Furthermore, expansion has not been at the cost of reductions in clinical quality of services, although it has been at the cost of accepting lower consumer quality in amenities. Most of the population has lived within 5 km. of a healthcare facility since the early 1970s, and most of the rural population is within 5–10 km of a peripheral facility” (Rannan-Eliya and Sikurajapathy, 2009).

“The factors explaining this include: a strong public service ethos established in the MOH by the 1950s; strong centralized control of budgets, inputs, and operating procedures, which minimized input prices and constantly forced health workers to meet increasing demand through efficiency savings instead of relying on more resources; and low administrative overheads associated with a civil service run, command-and-control management system.... through internal purchasing controls and investment decisions, the MOH can and does restrict the availability of services it considers too expensive. For example, government hospitals are prohibited from, or limited in, buying individual drugs or certain high-technology equipment” (Rannan-Eliya and Sikurajapathy, 2009; Hsiao et al., 2000).

The problems with private healthcare fall under four broad headings:

1. *Affordability: charges act as economic barriers so the poor cannot afford the care that they need.*

The core problem with private healthcare or education is simply that private providers charge for services, including insurance. As a result, the poor can afford less than the rich. Private healthcare is a much bigger burden on their income, and they can only afford a limited amount of healthcare, regardless of need. So it reduces the amount they have to spend on other things, while failing to provide as much care as they need.

The charts below show these effects In the USA, where private healthcare remains dominant, the poorest households spend 15% of their income on healthcare, while the richest are spending 3% of their income. But they still cannot afford as much private healthcare as the rich – although the healthcare needs of the poor are invariably greater.

Chart G In the USA, the poor spend much more of their money on private healthcare...

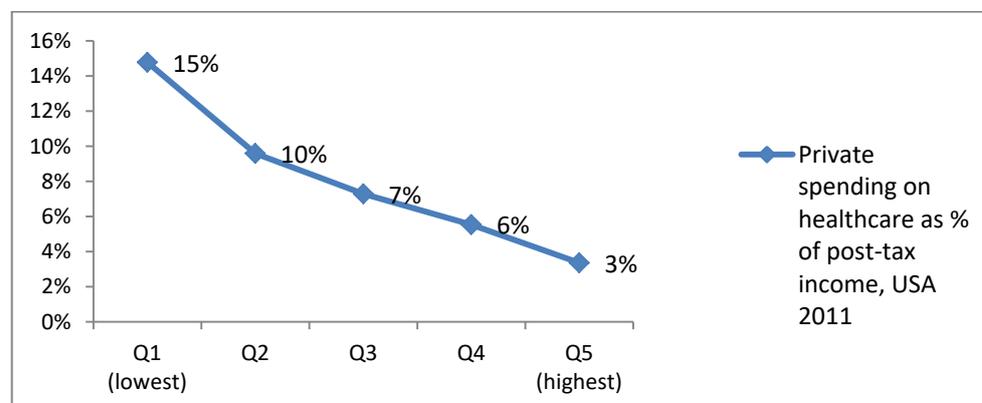
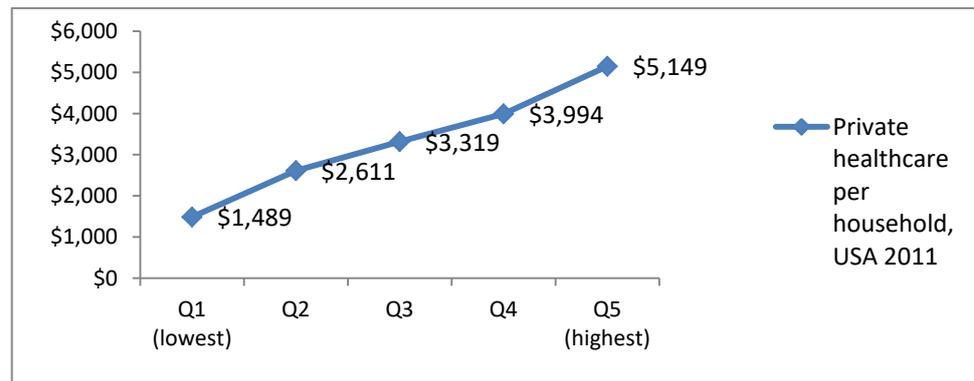


Chart H ...but still cannot afford the same healthcare as the rich



Sources: USA BLS, 2011, and PSIRU calculations.

2. *Catastrophic expenditure: the poor risk being forced into “catastrophic expenditure” by ill-health.*

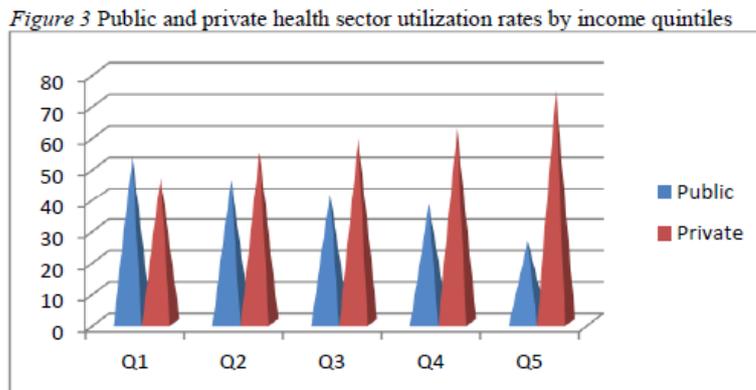
Surveys in eighty nine countries, both low and high income, covering 89% of the world’s population, suggest that 150 million people globally suffer financial catastrophe annually because they have to pay for health services. Countries with higher rates of inequalities between households have higher rates of financial catastrophe (Xu et al, 2007).

3. *Selectivity: private operators target the rich or richer regions.*

Privatizing existing public services also increases inequalities in the distribution of services, as private companies seek those with highest incomes rather than greatest needs. In Tanzania and Chile privatization led to many clinics being built in areas with less need, whereas prior to privatization government clinics had opened in underserved areas and made greater improvements in expanding population coverage of health services. In Chile, changes in demand for healthcare by an ageing population are causing people, previously covered by private healthcare insurance, to return to the public sector. The private healthcare sector is refusing to insure them because of their age and expected higher demand for care (Basu et al., 2012; Murray, 2000; Benson, 2001).

In India, public spending only represents one-fifth of all spending on healthcare, the rest is private spending. There are considerable variations between states in whether the benefits of this system are progressively distributed or not – in some states the poor get more benefit, in other states the better-off. But overall, poorer households rely more on public sector provision, while the private sector is more used by higher-income patients, as shown in the chart below (Chakraborty et al., 2013).

Chart I Utilisation of public and private healthcare in India by rich and poor



Source: Government of India (2005)

Source: Chakraborty et al., 2013.

4. Over-treatment: private companies sell services that are profitable but not needed

In China, private providers are paid on a fee for service basis under health insurance schemes, with below-cost prices for basic care and above-cost prices for higher-tech care, which encourages over-provision of expensive “high-tech” care: for example giving patients treatment which is not strictly necessary, or over-prescribing drugs (Wagstaff et al., 2009; Wagstaff and Lindelow, 2008).

India also shows the problem of providing “targeted” public finance spent on private provision. The Indian government launched a national health insurance scheme for the poor, the RSBY, in 2008, whereby families living below the poverty line can receive treatment worth up to 30,000 rupees (\$550) each year from designated private hospitals, which claim the costs directly from the state. But private clinics have seen this as an opportunity: an extraordinarily high number of women had their uteruses removed by private clinics, for which the clinics could charge more than for less radical treatment (BBC, 2013).

3.3.2. Housing

The importance of public housing can be seen in the origins of the financial crisis of 2008. In the USA, where public housing has been minimal, poorer families had to try to buy homes by taking out mortgages. The banks loosened credit requirements, as they rushed to sign more people to mortgages. Many people could then not afford the payments, and so these ‘sub-prime’ mortgages became bad debts for the banks, a major factor in the banking crisis. The banks responded with repossessions which made hundreds of thousands homeless. If the USA had instead provided public housing at affordable rents, families could have had decent accommodation without such financial stress on themselves and the system. As the UN’s housing expert, Raquel Rolnik, observed:

“The belief that markets will provide adequate housing for all has failed. The current crisis is a stark reminder of this reality... A home is not a commodity – four walls and a roof. It is a place to live in security, peace and dignity, and a right for every human being... Excessive focus on home ownership as the one and single solution to ensure access to housing is part of the problem... adequate housing for all is a public goal whose achievement requires a wide

variety of arrangements.... Markets, even with appropriate regulation, cannot provide adequate housing for all” (Rolnik, 2008).

The provision of public sector housing at affordable rents was one of the major public services in the 20th century in European and other OECD countries. In parallel, non-profit mutual savings banks and building societies enabled the middle classes to buy houses, with encouragement and support from governments. But this system has been undermined by neoliberal policies. From the 1980s, public sector housing was cut back as part of the general reduction in the role of the state, and public housing was sold to private companies, mutual building societies were converted into for-profit banks, with fewer restrictions on their lending policies. A UN conference on housing problems in central and eastern Europe, concluded that: “...the increasing reliance on market forces has not been sufficient to compensate for the decline of the role of the state in the housing sector” (UNECE, 2004).

Housing is a key issue in the rapidly growing cities of developing countries. This problem has been successfully addressed by public housing policies over the last 50 years in Singapore and Hong Kong, two of the most densely populated city states in Asia. In both cities, the programmes were started to deal with the problem of rapidly growing slum settlements, building hundreds of thousands of homes for rent. Public housing was later used to provide middle class housing as well, without rent subsidies. In Singapore, 85% of the population live in public housing, either rented or on a 99-year lease. Policies ensure that estates and new developments include a mix of different racial and social groups. Half the population of Hong Kong – over three million people – live in public housing; two million of them renting. By contrast in Malawi, a 2007 survey found that “Formal housing finance in Malawi is rudimentary ... and less than 16% [are] able to afford a conventional house ... no subsidies are available to the individual” (Singapore, 2010; Hong Kong, 2014; Nyasulu and Cloete, 2007).

Housing is again becoming a major problem in the cities of the developed world. Market forces mean that developers use prime urban land to build accommodation for ownership by the relatively affluent, or as an investment by the global rich. Either way, rents are driven up, and housing becomes unaffordable for many or most urban residents and workers. In developing countries similar processes involve “land-grabs” even in the poorest areas of cities like Karachi: in 2013 Perween Rahman, the director of the Orangi People’s Project, was killed because she insisted in documenting the rights of poor residents of an area targeted for profitable development, and on exposing the groups and politicians behind the land-grabs and the money they were making (Ley, 2017; Rogers and Sin, 2017; Scanlon et al., 2015; Zaman and Ali, 2017)

3.3.3. Environment and energy

The greatest single challenge facing the countries of the world is dealing with climate change. The measures required include switching to renewable energy sources for generating electricity, investing in more energy-efficient industrial processes and more energy-efficient homes, and developing public transport systems to reduce the use of cars. At the same time, over a billion households in Africa and south Asia remain without access to electricity supply.

The global costs of all the measures required to cut carbon emissions by the necessary amount has been estimated at between 1% and 3% of global GDP. The UN estimates that about three-quarters of this will have to come from public finance. These figures mean that

globally, public spending will have to be higher by about 1.5% of total GDP, just to deal with climate change. This process was accelerated by the stimulus packages introduced by governments in 2009 to counter the recession, which included many “green” investment projects, estimated to be worth over \$436billion in total – all from public finance (IMF, 2010B).

The necessity of public finance can be clearly seen in Europe, which introduced a compulsory internal market in electricity in the 1990s, and has more recently adopted targets for renewable energy. But it is now clear that the climate change policies are incompatible with the market rules, because the cheapest options, fossil-fuel plants, must be discouraged in order for renewables to flourish. The UK committee on climate change advised that: “we should not accept the significant risks and costs associated with the current market arrangements... changes to the current arrangements are both required and inevitable.” The UK regulator, OFGEM agreed: “There is an increasing consensus that leaving the present system of market arrangements and other incentives unchanged is not an option” (UK Committee on Climate Change, 2009). An attempt to provide a market solution by creating a carbon trading scheme, the ETS, failed. The IEA summarised: “Market-based, unsubsidised low-carbon investments have been negligible” (IEA, 2016B).

In Germany, a policy of explicit priority for renewable energy has simultaneously encouraged re-municipalisation, and created a large number of small firms and cooperatives, and undermined the dominance of the multinationals. There has been a big revival of municipal electricity companies [*stadtwerke*], not only taking over distribution networks but also expanding into generation of electricity – especially renewables. Municipalities plan to boost their share of electricity production from a tenth to at least a fifth by 2020. Renewable energy as a proportion of electricity generation in Germany grew much faster than anyone expected. By mid- 2013 the share of renewable energy was nearly 25%, with 25,000 wind turbines and 1.3 million solar photovoltaic facilities. Nuclear power stations will be closed completely by 2022. This process is known as the “Energy transformation” [*energiewende*] (Agora, 2013; *Economist*, 2012; *IP Journal*, 2013; Reiter, 2011).

Box A The Munich model

In 2008, Munich city council decided that its municipally owned utility company, Stadtwerke Muenchen (SWM), should plan to generate enough renewable energy in its own plants to supply all of Munich’s private households, subways and trams combined by 2015, and by 2025 enough to supply the entire municipality, including business and commerce. The 2015 target has already been achieved. SWM works with local welfare organisations to provide free energy advice to low-income households. SWM also provides public transport, water, district heating, telecoms and cable services to the whole city.

“Today, energy supply is characterized by oligopolies of private energy suppliers. There is practically no competition on price. The transition to renewable energies is made rather reluctantly. By 2025, our utility company aims to produce so much green energy, that the entire demand of the city can be met. That requires enormous investments around 9 billion euros by 2025 and can only be successful if the long-term goal is sustainable economic success rather than short-term profit maximization... German cities and towns are currently trying to correct the mistakes made in their privatization policies of the past. There are many examples of newly established or revived municipal utility companies, especially for energy and water supply, or of the repurchase of municipal transport services” (Reiter, 2011).

The private sector has also shown it is not a reliable partner for investing in major renewable energy projects in developing countries. Multinational companies have abandoned the two largest renewable energy projects in Africa, Desertec – generating solar power in the Sahara desert - and Grand Inga, a hydro-electric scheme on the Congo River. Development of both these projects now depends on governments and public sector utilities (Euractiv, 2013; CleanTech Blog, 2013).

In addition to developing renewable energy sources, many developing countries have to extend their electricity systems to provide full coverage. In 2010, 1.3 billion people were without access to electricity, the great majority of whom are in sub-saharan Africa and South Asia, and in rural areas, requiring annual investment of \$43billion to deliver universal connection by 2030 (IEA, 2012).

A World Bank study of investment in electricity and other infrastructure in sub-Saharan Africa shows that private companies have provided only about 10% of total investment – and nearly all of that is in power stations with long-term government-guaranteed contracts, not in extensions to the system: Table 5 summarises the data. The great majority of investment comes from public finance, followed by aid from donor countries and development banks: “in most developing countries upfront public investment in developing national and local capacity is the most important ingredient” for attracting any private investment at all – and even then it will only take place “where a commercial return can be reliably earned on the investment” (IEA, 2010; World Bank, 2010). The World Bank report also says that experience shows that a centralised public sector utility delivers much better results in rural electrification than fragmented or privatised approaches:

“countries that have taken a centralized approach to electrification, with the national utility responsible for extending the grid, have been more successful than those that followed decentralized approaches, where a rural electrification agency attempted to recruit multiple utilities or private companies into the electrification campaign” (World Bank/AFD, 2010).

Successful electrification programmes are invariably based on political commitment and public finance, for example in Brazil under the “*luz para todos*” programme.

Table 6 Public investment in electricity in Africa far greater than private

Country group	Investment (\$ billions)				Operational expenditure (\$ billions)	Total investment and operational	Public sector as % of total
	Public sector	Aid	Private sector	Total			
Total sub-saharan Africa	2.4	1.8	0.5	4.6	7.0	11.6	81%
<i>of which:</i>							
1. Resource-rich countries	1.2	0.8	0.3	2.3	1.6	3.9	72%
2. Middle income countries	0.8	0.03	0.01	0.8	2.7	3.5	99%
3. Low-income countries	0.4	0.9	0.2	1.6	2.6	4.0	75%

Source: World Bank/AFD 2010.

Box B Aggreko: private companies exploiting failure

Many countries facing power shortages have leased diesel generators. It is estimated that temporary emergency generators currently account for about 750 MW of capacity in Sub-Saharan Africa. Not only are temporary power solutions expensive, but because they use diesel, they are also a high carbon option. They do not provide a long-term solution by developing local capacity. They are also extremely noisy for local residents. The procurement processes for temporary power have also resulted in corruption and bribery problems: the Tanzanian Prime Minister and Energy Minister were forced to resign in February 2008 (Eberhard et al 2011). But private companies make good business from this failure to develop either a universal system or renewable energy. The biggest beneficiary is the UK-based multinational, Aggreko, with annual sales of £1.6billion (USD \$2.6 billion) and nearly 6GW of generating capacity, whose business plan is based explicitly on a continuing failure to extend the connections and generating capacity of utilities in developing country:

“In our core market, which we define as non-OECD countries excluding China, we estimate that the shortfall [in generating capacity] will increase 9-fold, from 22GW to 195GW. We are confident that such a level of power shortage will drive powerful growth [for Aggreko] over the medium and long term in demand for temporary power as countries struggle to keep the lights on.”

Aggreko is not just a passive beneficiary of this failure. It actively encourages governments to accept this failure, and rely instead on its diesel plants: “our own activities serve to create market demand – Bangladesh and Indonesia did not figure highly in our estimates of market size a few years ago, but they are now important customers as a result of our sales efforts” (Aggreko, 2012).

4. Conclusion: the politics of public spending and public services

This article has reviewed the evidence of the economic role of public spending and public services, in terms of efficiency at micro level, and in terms of the macro effects on growth, employment, and the delivery of public goods. The results undermine the assumptions of mainstream economists and policy makers.

Contrary to the expectations of neo-classical theorists, the empirical evidence does not show that private sector companies operate more efficiently than public sector organisations. Despite this, international institutions and national governments continue to follow policies of outsourcing, privatisation and PPPs. The economic cost is borne by the public in terms of higher cost of capital and higher transaction costs, which at the same time represent substantial gains for the financial and banking sectors.

The same is true for macro effects. Contrary to the policy prescriptions of the IMF, World Bank, European Commission and others, the increasing relative economic role of public spending is linked with higher GDP, supports a large proportion of formal employment, and is central to delivering key public goods. The 2008-09 recession was in no way caused by public spending – indeed, it is possible that one key factor behind the economic crisis was the attempt to replace the economic engine of public spending with a financial bubble, which failed. Its effects were however dampened by a substantial global increase in public spending,

yet since then the policies of international institutions and many national governments have followed the political ideologies which call for reductions in the role of the public sector.

Global public spending, and the relative importance of the public economy, is nevertheless likely to rise well above existing levels, for clear reasons, which have been identified and quantified by the IMF:

- Growth and economic development in middle and lower income countries.
- The need to deal with climate change, which adds about 1.5% of GDP to public spending levels.
- The needs of ageing populations for pensions and healthcare (an extra 4.5% of GDP).
- The need to restore economic growth and reduce unemployment

The international institutions, however, have followed the old cold war theorists in seeing these trends as a threat rather than an indicator of needs. In 2010, the IMF set targets of cutting public spending in high income countries by a quarter, from 36% of GDP to 27% of GDP, and cutting public spending in developing countries by one tenth, from 25% to 22% of GDP: these targets to be achieved by 2030 (IMF, 2010A).

Market mechanisms do not deliver the level of public services which countries need. The decisions which drive the development of public spending, or the imposition of austerity, are the outcome of political processes at national and international level. The creation of welfare states and the development of public services were associated with the election of social democrat governments and the independence of developing countries, both supported by strong trade unions. The attempt to halt this trend was also political, led by the Thatcher, Reagan and Pinochet governments in the UK, USA and Chile respectively, and by the adoption and promotion of these policies by the IMF, World Bank and the European Union.

The same conflicts are continuing in the 21st century. The economic outcomes depend on the outcome of the political contests between the international institutions and their conservative allies, and the movements and parties insisting that public spending should be “driven by collectively determined public need” (Sekera, 2016), defined by democratic decisions on economic, social and environmental objectives.

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