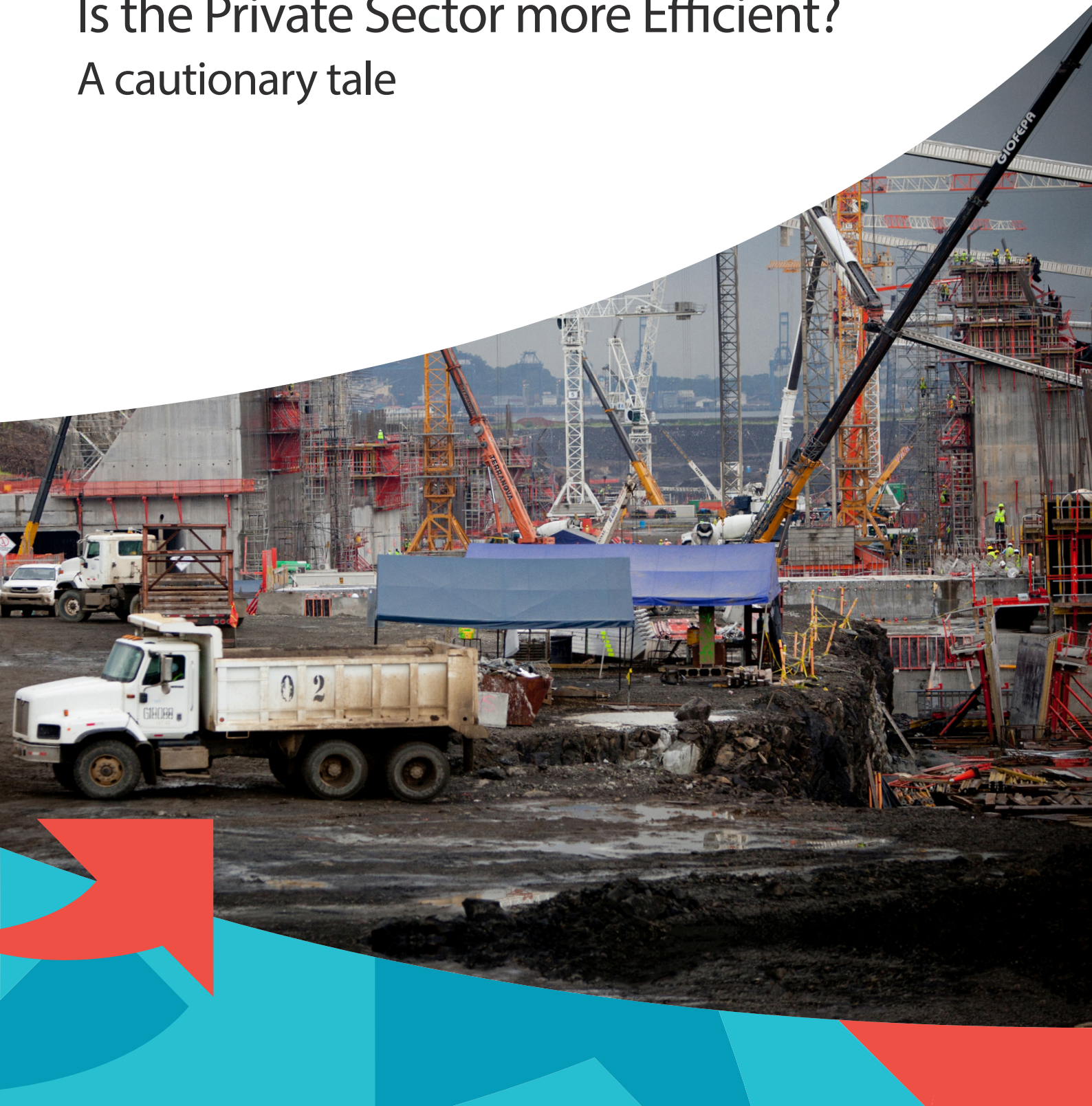


# Is the Private Sector more Efficient?

## A cautionary tale



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## Foreword

This is the tenth in our series of Discussion Papers, which put forward ideas for, and approaches to improving public service in developing countries, especially with the aim of achieving the UN Sustainable Development Goals (SDGs).

Starting in the 1980s, new approaches to public administration like New Public Management (NPM) were developed with the aim of “fixing government by running it like a business”. Implicit in this credo was the assumption that the private sector was more efficient than the public sector, and that privatisation and competition would make public services more efficient.

The consequences of NPM were far reaching in both developed and developing countries, providing a durable and consistent agenda for reform, but with a mixed record of success and failure. The initial euphoria about the efficacy of NPM seemed increasingly misplaced and, since the turn of the century, has given way to concepts like New Public Service (that addressed core issues about the nature of public service, in governance and conflicts around accountability, bureaucracy, efficiency, fairness and responsiveness) and Whole-Of-Government (that addressed problems of coherence and collaboration within government) approaches.

Yet, the argument over the private sector being inherently more efficient than the public sector was never fully settled. This paper makes a strong case challenging the assumption of the primacy of the private sector. It suggests that, first, “no model of ownership (public, private or mixed) is intrinsically more efficient than the others”; and second, that “efficiency of service provision under all ownership models depends on factors like competition, regulation, autonomy and wider issues of institutional development”.

Implementation of the ambitious and wide-ranging 2030 SDGs depends on effective public service and public services. Yet public services in most countries are confronted by crises of demoralisation, demotivation, disinvestment and the perhaps the unjustified tag of ‘inefficiency’ too. If successful delivery of the SDGs is to be achieved, public service needs not only stout arguments in its defence from development practitioners and agencies, but also the genuine empowerment of ‘New Public Passion’ backed by political will behind it, so as to make public service once more proud of being the rightful custodian of the public good.

**Max Everest-Phillips**  
**Director, UNDP Global Centre for Public Service Excellence**



## Executive summary

### Key points:

- ▶ No model of ownership (public, private, or mixed) is intrinsically more efficient than the others, but there are efficiency differences within certain service sectors and specific contexts.
- ▶ Literature which broadly compares efficiency between public and private models lacks rigour, whereas sectoral literature, especially in health and education, is more rigorous although often inconclusive.
- ▶ Efficiency of service provision under all ownership models depends on factors such as competition, regulation, autonomy in recruitment and salary, and wider financial and legal institutional development.

This discussion paper finds no conclusive evidence that one model of ownership (i.e. public, private or mixed) is intrinsically more efficient than the others, irrespective of how efficiency is defined<sup>1</sup>. Instead the literature suggests that the efficiency of service provision is dependent on the type of service (health, education, etc.) and other specific contextual factors (e.g. regulation, market competition).

This paper is not a systematic review but provides an overview of key evidence in the field. It does not assess the methodological rigour of the studies cited, and it should be noted that different studies using the same data have produced conflicting results.

Most literature comparing ownership models looks at specific service sectors: health, education, water, sanitation, and so on. The literature that compares public and private provision in general tends to be made up of opinion pieces and lacks rigour in comparison to academic and policy studies. The rigorous literature that does exist suggests that efficiency depends on factors such as country context, the sector, the market the firm operates in and the firm's organisation, rather than ownership.

The key challenges to comparing efficiency between public and private ownership models are the range of models (including hybrids), and variations in defining efficiency. Different models of service provision vary in the types of goods they deliver and the characteristics of the sector they operate in. This means each model is vulnerable to different causes of inefficiency and like-for-like comparisons are difficult. Efficiency is difficult to measure with certain types of goods and services, especially public goods which are non-rivalrous and non-excludable: that is, where one person's use does not prevent another's use, and it is not possible to exclude those who do not pay from benefiting (e.g. street lighting). The type of market failure, the tasks involved in service delivery and how the service is demanded, also impact on service governance and consequently efficiency.

There are a range of definitions for efficiency. Efficiency can be defined based purely on cost, but also on the degree to which the provision of goods addresses issues of need or equity, and adapts to evolving demands and practices. Most literature identified focuses on cost when referring to efficiency.

Most of the literature identified in this review is focused on the health sector. In this sector there is no conclusive evidence that either public or private provision is more efficient. This finding is replicated across high-, middle- and low-income countries. However, the literature does highlight a difference between private for-profit and private non-profit providers. While private non-profit providers have similar levels of efficiency to public hospitals, many studies find that private for-profit hospitals have lower levels of efficiency than the other two models. Some literature suggests that perverse incentives to over-treat in private for-profit hospitals drives down efficiency.

In the education sector the evidence suggests a difference between high-income countries and others. In high-income countries the limited research shows conflicting results with different studies finding in favour of alternatively public or private ownership. In low- and middle-income countries, the evidence suggests greater efficiency of private schools. Greater efficiency in private provision has been attributed to lower pay, recruitment autonomy, and market-like conditions. There is also some evidence to suggest that teacher absenteeism is lower in private schools and teaching quality is higher. Some studies on public-private partnerships suggest that a combination of public funding with private management can result in greater efficiency than other models.

Studies on water, sanitation and waste present conflicting findings. Country studies find that in some cases private ownership (or private participation) is associated with greater efficiency (e.g. Italy), and in other cases less efficiency (e.g. France). In these sectors, geographic and other service delivery characteristics are more likely to determine efficiency than ownership.

Studies which look at the comparative efficiency of enterprises before and after privatisation (i.e. the transfer of ownership from public to private) find that privatisation can lead to improved efficiency, but this is not always the outcome. A significant number of high-income country studies find efficiency improves following privatisation, though this may be due, at least in part, to additional factors such as competitive pressures (which have been created in some cases without privatisation), regulation, institutional development and property rights enforcement. Enterprises with substantial market power often have not improved efficiency following privatisation, possibly as they are relatively insulated from competition. Evidence from low- and middle-income countries is limited and more mixed. In some cases, privatisation has increased efficiency (e.g. Nigeria), and in other cases there has been no difference (e.g. Iran, Egypt, Bulgaria). The studies suggest there needs to be additional factors (e.g. a developed stock market) or prior reforms (e.g. national banking reforms) for privatisation to improve efficiency in these contexts.

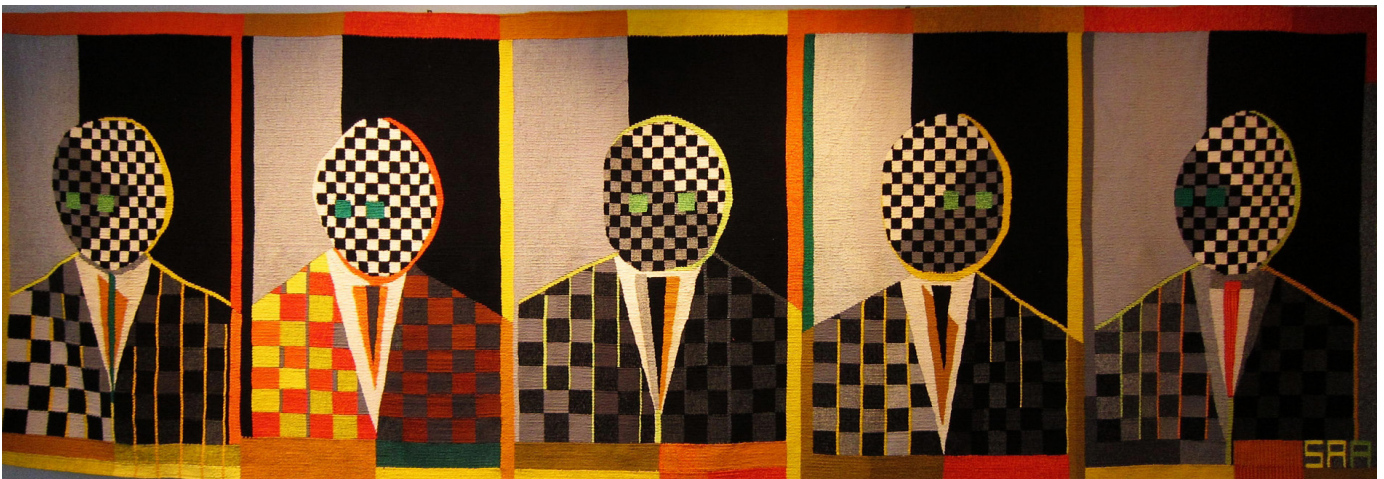
<sup>1</sup> Examples of types of efficiency explored within the literature include: productive, allocative, equitable, and dynamic (see section 2.3).

## The public/private efficiency argument in context

People have been complaining about 'red tape', idle bureaucrats and indolent 'pen-pushers' ever since government was invented.

In recent decades, efforts to undermine the effective, efficient and equitable public official working for the common good have advanced on seven fronts:

1. **Ideological** – an assertion, regardless of evidence and repeated often enough that it became accepted as a truism, that the public service is inherently incompetent, indolent and unresponsive by its very nature – rather than, if those characteristics were true, it is because political leaders allow this (contrast this with post-independence Singapore: political determination for building a highly disciplined and motivated public service has transformed the city-state).
2. **Intellectual** – a 'Catch 22' conundrum has developed:
  - ▶ Public Choice theory posits the idea that the public service is inherently self-serving and needed to be constrained;
  - ▶ New Public Management propagates the exact opposite view, that public service is inherently apathetic and needed to be incentivised into being effective.
3. **Commercial** – big profits for consultants and business are created by the belief that was fostered by the ideas of New Public Management, of running government more like a business, outsourcing services and promoting public-private partnerships.
4. **Political** – blaming the public service for failure offers a tempting scapegoat for politicians to deflect criticism of their own inadequate leadership and direction.
5. **Financial** – pay levels in professional posts in the public service have lagged behind those of the private sector that either many high-skilled vacancies could not be filled or special pay arrangements were required.
6. **Institutional** – there has been enough (selected) truth in some imagery of obstructive public service unions and unhelpful 'street level bureaucrats' to drown out the much more positive images of devotion to public good, such as was famously demonstrated by the unstinting self-sacrifice of officers of the New York fire service on and after 9/11.
7. **Organisational** – both elected leaders and senior administrators benefit from creating a 'permanent revolution' of ceaseless reforms and reorganisation of the public service. Despite the mounting evidence over the years that many reforms achieve almost no lasting improvements but greatly demoralise staff, the temptation to appear to be shaking up supposedly lazy and incompetent bureaucrats is all too great.



© BY Bosc D'Anjou / A tapestry titled *Even more bureaucrats* (1993) by the Norwegian textile artist Synnøve Anker Aurdal.

## Challenges of comparison and defining efficiency

### Key points:

- ▶ Service provision is increasingly neither purely public nor private, but hybrid.
- ▶ Comparing the overall efficiency of public and private models is challenging due to the range of service delivery models and variations in defining efficiency.
- ▶ When efficiency is defined in the literature, it is usually based on cost, but it can also be based on how providers meet need or equity, or how they adapt to evolving demand and practices.

This review found that there is limited literature which compares public and private ownership in general. Such literature is predominantly made up of opinion pieces that present selected data and material to support an opinion, and lacks rigour compared with academic and policy studies. This review has not found evidence that demonstrates conclusively that either public or private provision is inherently more efficient. Instead the literature suggests that efficiency is largely dependent on the country context, the sector, and in many cases the specific firms that are operating in the market.

The most rigorous literature comparing public and private ownership examines specific service sectors (e.g. health, education, water) or focuses on privatisation of state-owned enterprises. Literature identified for this review was produced at different times over the last three decades, which reflects shifts in interests in the academic and policy community. This review summarises the evidence and draws tentative conclusions but notes the limitations in such a review and the inherent challenges in comparing efficiency.

Suggestions for future research would be a systematic review of the existing comparative literature. Further research could help identify the key drivers and constraints of efficiency, and how ownership, in conjunction with other political economy factors and service characteristics, impact on these drivers.

This section outlines the models of service provision in addition to pure public or private delivery. In many cases, service delivery is through a combination, or hybrid, of public and private ownership. This section also highlights the challenges in comparing the varying types of service provision and then provides some ways in which to define and measure efficiency.

### 2.1 Models of service provision

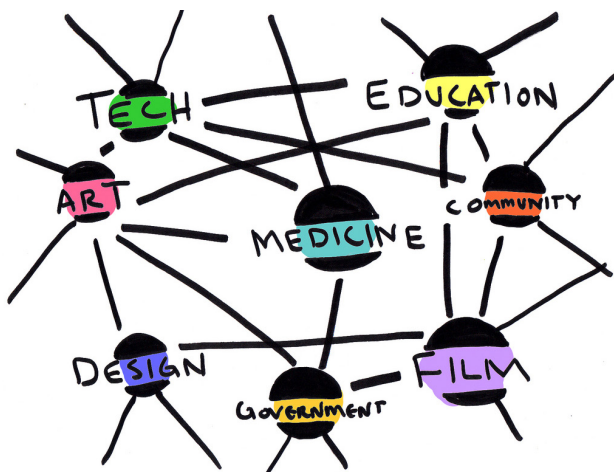
In the 1970s and 1980s concerns about existing welfare and developmental state approaches led to a shift in consensus on the active role of the state in the economy and the traditional model of bureaucracy (Batley & Larbi, 2004). The 1980s saw a rise in alternative ways of organising

and managing public services to give more prominence to markets and competition. Public bureaucracies were increasingly viewed as inefficient, slow, ineffective and unresponsive to service users. There were increasing attempts to bring in management approaches and techniques from the private sector, to the public sector, through what is often termed as 'New Public Management' (NPM) reforms (Hood, 1991). There is no defining set of NPM reforms (Rao, 2013) but there are a number of common features. In particular, the decentralisation and disaggregation of production has led to new forms of public service delivery involving the public and private sectors (Batley & Larbi, 2004; OECD, 2010):

- ▶ **Contracting out:** The state pays a non-state organisation to perform a task, set out in a formal agreement (i.e. a contract), which is enforceable by law.
- ▶ **Lease and concession of monopolies:** The private sector is given managerial and financial responsibility for a set term. In some cases the contractor covers the running costs from revenues (leases); in other cases the contractor must cover running costs but also invest or contribute towards fixed costs through investment (concession).
- ▶ **Licensed competition between producers:** Government intervention aims to ensure equitable access (e.g. even in unprofitable areas) or to mitigate the effects of unrestrained competition on society at large.
- ▶ **Joint ventures:** Government enters into contractual relationships with the private sector both in setting up the company and in awarding the company the contract to undertake the work.
- ▶ **Co-production:** Government, the private sector and the beneficiaries of public services may collaborate by making complementary but independent contributions to the production and delivery of services, often without any formal or contractual underpinning.
- ▶ **Public-private partnership:** A term which is often used loosely to describe any or all of the above arrangements. Partnership may be through joint ownership and investment or through complementary investment where, for example, the public sector may facilitate private action.

Increasingly service provision is not exclusively either public or private. These models of service provision vary in the type of goods they deliver; and the degree to which the goods are excludable (i.e. one cannot exclude individuals from benefiting), rivalrous (i.e. use by one person prevents simultaneous consumption by another), and provide public or private benefits.





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## 2.2 Challenges of comparing provision of public services

The range of public, private and joint approaches to delivering services makes measuring comparative efficiency particularly challenging. Looking at NPM approaches overall, emerging evidence from the UK suggests that there has been a reduction in consistency and fairness of delivery of services, along with a substantial rise in reported administration costs (Hood & Dixon, 2015). The rise in costs without increase in performance suggests efficiency may not be improved by NPM approaches which combine public and private provision, but there is as yet, limited evidence on this.

There are a number of factors, specific to the model of provision of services, which may affect efficiency (Batley & Larbi, 2004; OECD, 2010). With contracting out, competition between non-state organisations for contracts can increase efficiency of provision, but the transaction costs of setting up and monitoring these contracts may cancel out any efficiency gains. Lease and concession may help manage natural monopolies whilst avoiding the concentration of power in either the public or private sectors, which can have positive effects on efficiency. In the case of licensed competition there may be a trade-off between equity and cost efficiency. For example, providing licences to bus companies that must ensure coverage and similar tariffs in normally unprofitable or less profitable areas would improve equity but also increase costs.

The public sector may compensate for market failures that would otherwise lead the private sector to perform inefficiently or not at all, for example where large scale investment is required, returns are risky or uncertain, or there is difficulty in charging consumers (Batley & Larbi, 2004). Public sector involvement can also address risk by enforcing legal sanctions. In joint ventures there are incentives which can undermine efficiency. Unlike pure contracting out, the government participates on both sides

of the contract, leading to possible conflicts of interest. In these situations, governments may acquire an interest in ensuring that partner companies profit to a degree that is at odds with the public interest (i.e. regulatory capture). Privatisation, whether of the ownership of assets or of the management of a public service, is often of the most profitable or efficient enterprises, which makes a straight comparison of public and privatised enterprises unfair.

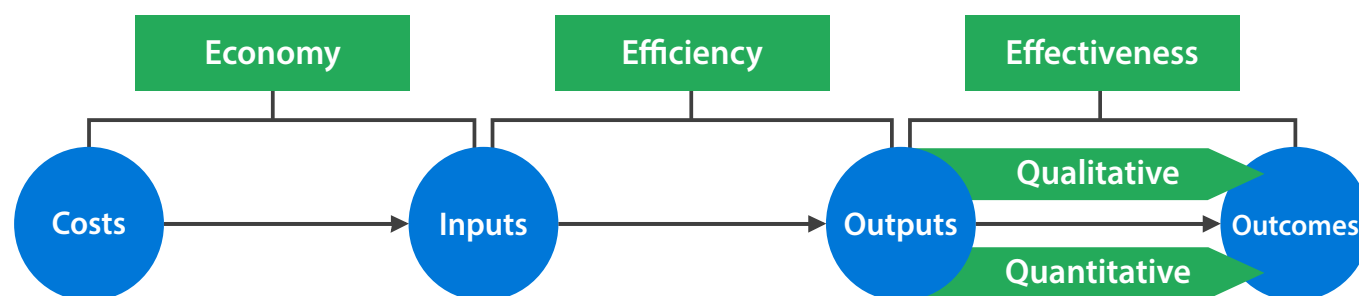
Different types of public services have specific characteristics which can affect their governance, and ultimately their efficiency. Efficiency is more straightforward to measure with pure private goods (i.e. excludable, rivalrous goods such as food and clothing) than pure public goods (i.e. non-excludable; non-rivalrous goods such as street lighting) where the benefits are more diffuse. Most of the literature on comparative efficiency in service delivery identified in this review focuses on quasi-public goods – health, education and utilities. The nature of the good being produced, the type of market failure encountered, the tasks involved in delivery, and how the service is demanded and consumed, can have powerful effects on the incentives for politicians to commit to the provision of services, on control and monitoring processes between political actors and providers, and on the level of citizen pressure for services and how this is voiced (Batley & McLoughlin, 2015). For example, services which are less visible to citizens and the government, and less attributable to actors' initiatives, are likely to receive limited political commitment. Service users' ability to organise so as to demand better services is weakened where users are in competition for services (e.g. access to high performing schools), where suppliers have a monopoly of provision (e.g. urban piped water supply), or where the service is used only occasionally and in critical conditions (e.g. hospitals). How these characteristics affect performance factors including efficiency will vary by context.

*Privatisation, whether of the ownership of assets or of the management of a public service, is often of the most profitable or efficient enterprises, which makes a straight comparison of public and privatised enterprises unfair.*

## 2.3 Measuring efficiency

Across the literature there are several definitions, or approaches, used for assessments of efficiency. Some authors differentiate between types of efficiency based on whether they focus purely on cost, or how well they meet needs or equity, and how responsive they are to changing needs and practices (Andrews & Entwistle, 2013; Stone, 2014):

**Figure 1: Value for Money (Vfm) assessment on the Results Chain**



Source: DFID (2011)

- ▶ **Productive efficiency** – the maximisation of outputs over inputs, or doing the most work with the fewest resources. For example, building a road using machinery rather than picks and shovels can be lower in cost leading to greater productive efficiency. Productive efficiency is also sometimes termed technical efficiency or cost efficiency.
- ▶ **Allocative efficiency** – the match between the demand for services and their supply, or allocating resources to the right place to do the right job. This could be building a road where it is most needed. Irrespective of productive efficiency, if a road is in the wrong place, or if an area with more traffic is neglected, this is inefficient in an allocative sense.
- ▶ **Equitable efficiency** – the extent to which governments can deliver an equitable distribution of services between citizens within their budget constraints. This would be ensuring transport needs are met even in unprofitable areas. Equitable efficiency is sometimes termed distributive efficiency.
- ▶ **Dynamic efficiency** – the balance between present and future consumption or being able to use new technologies and adopt new ways of operating to ensure current and future needs are met. This could be attending to transport needs as opportunities or needs change over time. For example, developing new modes of transport such as high-speed rail.

Looking along a results chain (e.g. figure 1) of how public services are delivered, efficiency can be defined narrowly as between inputs and outputs, or more broadly as between costs and outcomes. For example, the UK National Audit Office approach to Value for Money (VfM) defines 'efficiency' in relation to productivity – the ratio of inputs to outputs, whereas the term VfM is used to take into account the efficiency of the overall value chain (DFID, 2011; National Audit Office, n.d.).

The term efficiency is most commonly employed in relation to cost, or 'productive efficiency'. This can be the relationship between inputs and outputs, but seems to be most commonly concerned with the relationship between

costs and outcomes, what is termed above as VfM. In literature the term efficiency is rarely used in relation to issues of appropriate allocation, equitable allocation, or adapting for future needs and methods.

### 3. Health sector

#### Key points:

- ▶ The comparative efficiency of public and private health provision is well studied.
- ▶ Studies typically find either no significant difference between ownership models, or are inconclusive.
- ▶ Within the private sector, evidence suggests that non-profit providers are more efficient than for-profit providers. This may be explained by incentives to over-treat by private for-profit providers.

In the health sector, there is a broad range of literature comparing the efficiency of public and private ownership models. Studies of high-income countries typically find that the differences between public and private provision are insignificant or inconclusive. Analyses of low- and middle-income country health provision, though based on limited data, find public provision to be as efficient as, or more efficient than, private provision. A number of studies differentiate private provision into private for-profit (PFP) and private non-profit (PNP). These studies find similar efficiency between public and PNP providers, and find that PFP providers are the least efficient.

#### 3.1 Evidence from high-income countries

Analyses in high-income countries generally do not find large differences in efficiency between public and private provision, although they do find some differences on specific measures of performance. One broad literature review finds that differences in efficiency are inconclusive and may be affected by market conditions and institutional arrangements, such as demand and supply factors (e.g. income levels, population density), lack of resources and decision-making ability (e.g. poor infrastructure, inability



for patients to choose), and payment mechanisms (e.g. prospective rather than retrospective reimbursement) (Hsu, 2010). Another literature review identified eight studies on efficiency in acute care hospitals in the US, Germany, Taiwan and South Korea. Of these, five studies find that public and PNP hospitals are more efficient than PFP; one concludes the opposite; and two find no significant difference (Sibbel & Nagarajah, 2012). The authors conclude that it is not possible to ascertain whether one type of hospital is more efficient. In a third broad literature review comparing private for-profit and not-for-profit provision, Shen, Eggleston, Lau, & Schmid (2007) report that 7 studies find that PFP are less efficient, 5 that are more efficient, and 2 find no significant differences.



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Turning to individual country studies, a 2008 government commission in **Australia** found that the efficiency of public and private hospitals is, on average, similar, based on a multivariate analysis of hospital-level data (Productivity Commission, 2009). There were some significant differences, however, on specific measures of performance. For example, small private hospitals did slightly better than small public hospitals in terms of mortality rates. Public hospitals were shown to keep costs down on diagnostics and prosthetics, whereas private hospitals achieved lower costs on pharmaceuticals and general hospital charges. Based on this Commission's report, Stone (2014) concludes that public and private operators can learn from each other to improve efficiency and that this demonstrates the benefits of having different ownership models represented in an industry.

A study comparing the efficiency of public hospitals, PNP hospitals, and PFP clinics in **France** (Dormont & Milcent, 2013) found that efficiency depended on patient population characteristics and hospital stay composition. Without factoring those issues in, public hospitals showed poorest efficiency, followed by PNP hospitals and then PFP clinics. But factoring in those issues, the ranking is reversed and with the exception of small establishments, public hospitals and PNP hospitals are more efficient than PFP

clinics. In this study efficiency was based on 'productive efficiency' as in the outputs produced by a set number of factors of production (e.g. hospital bed use, nursing staff, administrative staff and technical staff). The study does not take into account quality of care. The authors conclude that the lower observed efficiency of public hospitals is attributable to their size, the composition of their patient population, and the small proportion of surgery stays.

A review of studies comparing the efficiency of **German** public, PNP and PFP hospitals finds that private ownership is not necessarily associated with higher efficiency compared to public ownership (Tiemann, Schreyögg, & Busse, 2012) and that results from these studies are quite mixed. Using the same set of data, there are studies which find public ownership more efficient (Herr, 2008; Tiemann & Schreyögg, 2009), as well as contradictory studies that find PFP ownership more efficient (Werblow, Karmann, & Robra, 2010). There are also studies using the same data which find no efficiency differences associated with hospital ownership (Herr, Schmitz, & Augurzky, 2011). The concept of efficiency here relates to cost efficiency (i.e. to what degree a hospital chooses a cost-minimizing input mix) and technical efficiency (i.e. how well a hospital produces output from a given amount of input, or alternatively produces a given amount of output with minimum quantities of inputs).

An **Italian** study focused on the Lazio region finds public hospitals to be most efficient, PFP hospitals to be least efficient, and PNP hospitals to be in-between (Daidone & D'Amico, 2009). Efficiency is defined as productive efficiency.

Studies of hospitals in the **United States** reach contradictory conclusions about (productive) efficiency. A study in Florida (Sari, 2003) and a study on a set of southern States (Arkansas, Louisiana, Oklahoma, Texas) (Ferrier & Valdmanis, 1996) find that PFP hospitals are more efficient than public hospitals, while another Florida study finds the opposite (Chirikos & Sear, 2000). Both Florida studies find, however, that public hospitals were more efficient than PNP hospitals (Chirikos & Sear, 2000; Sari, 2003). National studies find similarly conflicting conclusions. Some find public hospitals to be more efficient than private hospitals (Burgess & Wilson, 1996; Koop, Osiewalski, & Steel, 1997; Ozcan, Luke, & Haksever, 1992) while other studies find private hospitals (especially PNP hospitals) to be more efficient than public hospitals (McKay, Deily, & Dorner, 2002; Mutter & Rosko, 2007; Shelton Brown, 2003; Zuckerman, Hadley, & Iezzoni, 1994).

*Market-based payment and incentive structures can destroy value, rather than increase efficiency as they fail to measure the human relationships and different motivations of people in public service.*

Simms (2013) notes that the UK has better life expectancy outcomes than the US, despite spending half as much per person (in its largely public system) as the US does (in its largely private system). In general Simms (2013) concludes that public provision can be cheaper, more effective, and more productive. Market-based payment and incentive structures can destroy value, rather than increase efficiency as they fail to measure the human relationships and different motivations of people in public service.

Another area of health care which can provide insights is whether the introduction of private ownership through public-private partnerships (PPP) improves efficiency. A systematic review by Torchia, Calabrò, & Morner (2013) finds that although PPPs are used to address internationally emerging public health issues, there continue to remain questions as to their efficiency, as well as effectiveness and convenience. One article identified in the review argues that the cost-efficiency case for PPP appears weak since public finance is always cheaper than private finance and therefore governments are generally able to borrow at lower rates than the private sector (Hellowell & Pollock, 2009). Furthermore for a PPP to provide more value-for-money than the public sector, the higher cost of finance must be offset by better management of risk through the private sector.

Systematic reviews by Torchia et al. (2013) and Basu et al. (2012) conclude that the evidence base on PPP performance and efficiency is still poor. Basu et al. (2012) argue that strong claims by organisations that investing in public-private partnerships will improve efficiency and effectiveness in the health sector (e.g. World Bank, 2009) are either unsupported by data or the data has not been provided in sufficient detail to pass minimal inclusion criteria required for a systematic review (Prata, Montagu, & Jefferys, 2005; World Bank, 2011).



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### 3.2 Evidence from other countries

A systematic review of health sector performance in low- and middle-income countries (Basu et al., 2012) finds public provision to be more cost efficient than private, resulting in part from perverse private sector incentives for unnecessary testing and treatment. On other measures of performance, the report found that:

- ▶ Providers in the private sector more frequently violated medical standards of practice and had poorer patient outcomes.
- ▶ The public sector appears frequently to lack timeliness and hospitality towards patients.
- ▶ Costs for drugs and overall health spending were lower in the public sector. Delays in diagnosis and treatment, unnecessary procedures, and fragmentation of systems such as drug purchase and distribution contribute to higher private sector costs.

The study used World Health Organisation (WHO) health system data categories, subcategories, and indicators. Efficiency was thus measured by absolute dollars spent for a given indication (cost); repetition of diagnostic time, testing, supply chains, and therapy delivery (redundancy); the separation of core healthcare system functions generating 'sluggish' management (fragmentation); and the time between ordering of tests or therapies and execution of tests/therapies (delays). If the analysis of efficiency is widened to include the degree of access to services it is of note that most people accessed public, rather than private, care (assuming unlicensed and uncertified providers such as drug shop owners are not included in the private sector) (Basu et al., 2012).

A 2014 overview of systematic reviews on ownership of healthcare providers across all country income groups finds no conclusive results in terms of efficiency (Herrera, Rada, Kuhn-Barrientos, & Barrios, 2014). The study does however find differences between types of private providers, finding that mortality rates are higher in PFP than PNP providers. Herrera et al. (2014) conclude that more research is needed in low- and middle-income countries on issues affecting health performance so as to understand the impact on healthcare delivery systems and their development. Likewise, Basu et al. (2012) conclude that further investigations should make data more systematically available so as to better compare the performance of both public and private systems.

## 4. Education sector

### Key points:

- ▶ Evidence from high-income countries is inconclusive.

- ▶ Evidence from low- and middle-income countries suggests private provision is more efficient than public provision.
- ▶ Private providers often have more recruitment autonomy, lower pay levels, and market-like conditions. These may contribute towards better efficiency.

In education there are mostly country-specific studies but also some international comparative studies. In high-income countries there is limited research on comparative efficiency with some studies finding public schools more efficient and other studies finding the opposite, despite using the same data. These differences are attributable to methodological variation. Evidence on public-private partnerships is limited but suggests that public funding with private management can result in greater efficiency than other models. In low- and middle-income countries, there is significant evidence in support of greater efficiency of private schools. Greater private sector efficiency is attributed to the ability to set lower pay and to recruitment autonomy, as well as the market-like competitive conditions in which they operate.

#### 4.1 Evidence from high-income countries

While there are a number of studies looking at school efficiency and how to improve this there are relatively few studies which compare public and private sector efficiency. A study comparing the efficiency of public and publicly subsidised private high schools in Spain, based on 2006 Programme for International Students Assessment (PISA) microdata finds that once differences in students' backgrounds, school resources and individual management inefficiencies are removed, public high schools are more efficient (Mancebón, Calero, Choi, & Ximénez-de-Embún, 2012). The authors argue that the main differences between efficiency are more related to student type and to school characteristics, than to ownership. A study based on 2003 PISA data similarly concludes that once educational inputs and bias due to school choice are discounted, differences in efficiency become statistically insignificant (Perelman & Santin, 2011). Though private schools may get better academic results than public schools, this is not the consequence of school management but rather that pupils have more favourable backgrounds (Mancebón & Muñiz, 2008).

However, a subsequent Spanish study also using the 2006 PISA data finds that, on average, private (but government-funded) schools are more efficient than public schools (Crespo-Cebada, Pedraja-Chaparro, & Santín, 2013). The authors suggest two potential drivers for the efficiency gap – market competition and monetary incentives. Private government-funded schools must compete to attract students to justify their public finance, unlike public schools. They therefore must provide a more innovative education service while keeping costs competitive which helps maintain demand for education from their schools.

Secondly, teachers in public schools are civil servants, with a guaranteed job and no or few monetary incentives to improve their teaching methods. Private government-funded schools, on the other hand, have more autonomy to hire or fire teachers, or to introduce incentives with the aim of maximising school results.

A paper on public-private partnerships (PPPs) in education using 2000 PISA data from 35 countries finds that public school operation is associated with lower student outcomes, but public school funding with better student outcomes (Wößmann, 2005). Though the paper is focused on effectiveness (improving students' cognitive skills), rather than efficiency (for which relative costs would have to be taken into account), Kingdon (2007) argues that this paper suggests that private operation of schools with public funding could lead to efficiency gains but that evidence overall is thin.

#### 4.2 Evidence from other countries

A rigorous literature review focused on low-cost private schools in developing countries finds moderate strength evidence that the cost of education delivery is lower in low-fee private schools than in public schools (Day Ashley et al., 2014). In their review, efficiency is based on the cost of education delivery but also the financial sustainability of schools, and the review finds there was limited evidence on whether private schools were financially sustainable. The study finds strong evidence that teaching is of better quality in low-fee private schools than in state schools, with higher levels of teacher presence and teaching activity as well as teaching approaches that are more likely to lead to improved learning outcomes.

A review involving more than 150 statistical comparisons covering eight different educational outcomes<sup>2</sup>, finds that private provision outperforms public provision in the majority of cases (Coulson, 2009). On the issue of efficiency the authors review 29 studies and find that all but four show statistically significant findings that private or 'market-like' schooling is more cost-efficient.

There are a significant number of Indian studies comparing public and private sector efficiency in education. These studies, which are included in the Day Ashley et al. (2014) rigorous review, explore the reasons for the differences in efficiency. The higher efficiency of private schools is often attributed to the low levels of teaching activity and higher than market rate salaries in public schools (Kingdon, 2009; PROBE Team, 1999). Kingdon (2009) notes that private schools' ability to pay market-level wages implies a large unit cost advantage over government-funded schools where staff have permanent positions with promotion unrelated to job performance.

<sup>2</sup> These were academic achievement (as measured by student test scores); efficiency (measured as academic achievement per dollar spent per pupil); parental satisfaction; orderliness of classrooms; condition in which facilities were maintained; subsequent earnings of graduates; attainment (graduation rates of high schools, or highest average grade completed); and effects on measured intelligence.



Comparatively low levels of teaching activity in public schools have been observed through unannounced visits. A study across India found that 25 percent of teachers were absent from school, and only about half were teaching, during unannounced visits to a nationally representative sample of government primary schools (Kremer, Chaudhury, Rogers, Muralidharan, & Hammer, 2005). The study finds that those paid more (i.e. older teachers, more educated teachers, and head teachers) are also more frequently absent and that absenteeism is higher in poorer states although teacher salaries are relatively higher there. Contract teachers, who are paid much less than regular teachers, have similar absence rates. Across India private-school teachers are only slightly less likely to be absent than public-school teachers in general, but the study finds that they are 8 percentage points less likely to be absent than public-school teachers when looking at the same village.

There is evidence that hiring contract teachers in public schools is more efficient than regular civil service teachers. An experimental study, in randomly-selected government-run rural primary schools in the Indian state of Andhra Pradesh, finds that contract teachers are effective at improving student learning outcomes (Muralidharan & Sundararaman, 2013), and no less effective than regular civil-service teachers who are more qualified, better trained, and paid five times higher salaries.

Compared to public schools, private schools pay much lower teacher salaries, have lower pupil-teacher ratios, lower teacher absenteeism, and with teachers spending more time teaching (Muralidharan & Kremer, 2009). Private school teachers are also more likely to hold a college degree even though they are less likely to hold a formal teacher training certificate. Students in private school have higher attendance rates and have higher test scores, even after having taking into account factors specific to their family or school.

## 5. Water, sanitation and waste sector

### Key points:

- ▶ There is conflicting evidence on the impact of ownership in the water, sanitation and waste sector(s); in some cases private ownership (or private participation) is associated with greater efficiency, and in other cases less efficiency.
- ▶ Geographic and other service delivery characteristics are more likely to determine efficiency than ownership.

There are a number of studies on the comparative efficiency of public utilities and in particular, on water. These studies find conflicting conclusions on cost efficiency. In some cases private ownership or private participation is associated with greater efficiency (e.g. Armenia, Brazil) in some cases less efficiency (e.g. France,

Malaysia). In many cases differences have been attributed to geographical characteristics (e.g. Italy, Japan). Overall analyses find that neither public nor private provision has an intrinsic advantage.

### 5.1 Evidence from high-income countries

In **France** water utilities can be directly managed by the local authorities or contracted out and then managed by a private operator. A study looking at the French water supply sector in 2009 finds that, having taken the environmental variables into account, public management is more efficient than private management (Lannier & Porcher, 2014).



© BY Denis Bocquet / Graffiti in Turin, Italy demanding the reversal of the privatisation of water services.

A study in **Italy** finds that the involvement of the private sector in the management of the infrastructure assets and water services delivery either alone or as a partner of the public sector has contributed to improved efficiency (Io Storto, 2013). However, the geographical location of the providers and economies of scale may be as important as the ownership model. The efficiency model used in the study did not include any measure of service quality.

As well as water utilities there are studies on the comparative efficiency of public services such as waste collection. A study of solid waste collection in **Japan** concludes that private participation can increase efficiency in some situations, in particular contracting with or licensing private operators who already have high productivity levels (Ichinose, Yamamoto, & Yoshida, 2013). The authors caution against "the naïve introduction of private participation" (Ichinose et al., 2013, p. 103) and note that geographical characteristics, such as the number of inhabited remote islands that are operated in, are relatively more dominant factors for determining inefficiency.

### 5.2 Evidence from other countries

In a literature review on the relative efficiency of public and private ownership in the water sector, Hall & Lobina (2005) find that the evidence points strongly to the conclusion that there is no systematic intrinsic advantage to private operation in terms



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of efficiency. Their conclusion is based on other reviews which assess the value of privatisation in the UK, and literature on private versus public efficiency in developed, developing and transition countries. The reviews identified by Hall & Lobina (2005) find some cases of greater private sector efficiency, some cases of greater public sector efficiency and some cases of no difference (Florio, 2004; Willner & Parker, 2007).

A number of other studies also fail to find either public or private provision to be more efficient. A World Bank study which compared the efficiency of publicly and privately owned water utilities finds no significant differences (Estache & Rossi, 2002) and a review of 22 empirical tests and 51 case studies finds that private participation in water supply does not systematically have a significant positive effect on efficiency (Pérard, 2009).

There are a number of studies which look at the impact of introducing private participation in the water supply sector. In one paper, Prasad (2006) finds the introduction of private providers has had mixed results and that in several respects private providers seem to be no more efficient in delivering services than public providers. The concept of efficiency in this paper includes issues of equity, access, and affordability and

relates to efficiency service for all including the poor, rather than cost specifically.

A study looking at the introduction of PPPs in the water sector in **Armenia** finds that private participation in general led to increased operational efficiency in terms of labour productivity, water metering, continuity of service, and revenue collection efficiency (Harutyunyan, 2012). The study finds mixed improvements in the operating cost coverage ratio.

A study on **Malaysia's** water privatisation finds that it failed to improve efficiency (Tan, 2012). There was little overall improvement in terms of water revenue loss, through leakage and theft, and this improvement was unrelated to public or private ownership. The main reduction in production costs were seen in states with publicly owned water utilities where most of the efficiency gains occurred.

A **Brazilian** study finds private firms to be more efficient than government-owned water and sanitation firms though they exhibit a higher variability in efficiency levels (Ferro, Lentini, Mercadier, & Romero, 2014). The authors find that private firms have a lower cost structure as they are more likely to have better cost accounting and a more professional management. This contrasts with a 2008 study which found that public firms are more efficient although the difference in efficiency is declining over time (Souza, Faria, & Moreira, 2008).

## 6. Privatisation of state-owned enterprises

### Key points:

- ▶ Privatisation is often, but not always, associated with improved efficiency. Evidence of privatisation improving efficiency is strongest in high-income countries.
- ▶ Evidence is limited and mixed in low- and middle-income countries. Studies highlight the need for additional factors or reforms for privatisation to improve efficiency.
- ▶ Factors that affect efficiency, in association with privatisation, include competition, regulation, financial and legal institutional development, and enforcement of property rights.

There are a number of studies which look at the comparative efficiency of enterprises, before and after privatisation. There is significant evidence that privatisation can lead to improved efficiency but improvements in efficiency through privatisation is dependent on a number of additional factors. OECD (2003) argues that despite limited data and methodological difficulties "there is overwhelming support for the notion that privatisation brings about a significant increase in the profitability, real output and efficiency of privatised companies" (OECD, 2003, p. 35).



A frequently-cited 2001 literature review on the privatisation of state-owned enterprises (SOEs) concludes that research supports the proposition that divested (i.e. fully or partially privatised) firms almost always become more efficient (Megginson & Netter, 2001). Others argue that this review and conclusion is flawed. A follow-up 2013 literature review finds that research does not in fact support the conclusion that privately owned firms are more efficient, and that the impact of privatisation on efficiency is much more heterogeneous (Mühlenkamp, 2013). Some also point to potential methodological flaws – for example, that ostensible gains identified from privatisation may be due to a selection bias – better public sector firms may be privatised first providing an inaccurate comparison (Altug & Filiztekin, 2006).

### 6.1 Evidence from high-income countries

A study using a sample of 129 privatisations from 23 high-income countries, found significant increases in efficiency following privatisation (D'Souza, Megginson, & Nash, 2005). Such studies also note a number of factors mediate whether privatisation results in greater efficiency. This includes the degree of economic freedom, the level of capital market development, the effects of foreign and domestic competition, and the role of managerial incentives and human capital (Djankov & Murrell, 2002; D'Souza et al., 2005; Megginson & Netter, 2001).

One study compared the efficiency of state-owned enterprises with private enterprises in Spain, before and after privatisation (Arocena & Oliveros, 2012). The study found that prior to privatisation there were no significant differences in efficiency between state-owned enterprises and their private counterparts. After privatisation the efficiency of newly privatised firms significantly increased, while the original (private) competitors showed no significant improvement during the same period. The study also notes that the state-owned enterprises that had higher efficiency levels before privatisation were the same enterprises showing higher increase of efficiency after privatisation.

A longitudinal study of 24 Spanish firms finds that several political and organisational factors are found to influence the effects of privatisation on efficiency (Villalonga, 2000). These factors included: whether the enterprise was privatised during a recession; the level of domestic political concerns over foreign ownership of privatised SOEs; size of the enterprise; and how capital-intensive the firm is. The study concludes that negative political and economic effects would be transitional and likely to be eventually offset by the positive effects of the change to private ownership.

Simms (2013) concludes that the evidence from a range of sectors does not support the notion that private providers deliver greater efficiency or value. The paper highlights the UK privatisation of railways which required double the level of public subsidy at one time following privatisation. However, this conclusion contrasts with another study

looking at the efficiency record of train companies in the years following privatisation which concludes that privatisation has been associated with increased efficiency (Affuso, Angeriz, & Pollitt, 2009). This rail study finds the increased efficiency is due to, in particular, reduction in operating costs and amounts of inputs employed while increasing outputs.

Competition is often cited as a driver of improved efficiency and the underlying cause of efficiency improvements through privatisation. In a 2013 review of comparative efficiency of public and private enterprises, Mühlenkamp (2013) concludes that no significant efficiency will be made through privatisation in industrial countries as there is already a mostly complete opening up of public services to competition. Some studies find that privatisation is unlikely to improve efficiency where the market is not competitive, for example where enterprises can insulate themselves from competition. A study examining Britain, Chile and Poland concludes that there was no advantage to privatisation in terms of competition and driving efficiency when the enterprise being privatised had substantial market power (Vickers & Yarrow, 1991). The authors suggest it is important to promote competition first, establish realistic price signals, and then privatise.



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### 6.2 Evidence from other countries

Evidence from middle- and low-income countries is limited and more mixed. The impact of privatisation has not been comprehensively assessed in many developing countries, particularly not in Sub-Saharan Africa and the relationship between privatisation and performance improvements, such as efficiency, is complex - "superior post-privatisation performance is not axiomatic" (Obadan, 2008, p. 67).

A study of 230 firms headquartered in 32 developing countries found that privatisation did significantly





© BY seier+seier / *The striking interiors of the University Branch in Tehran of Bank Melli Iran, the nation's first bank and now the largest commercial retail bank in the Middle East.*

increase efficiency but that changes in performance varied depending on factors such as the macro-economic environment and the effectiveness of corporate governance (Boubakri, Cosset, & Guedhami, 2005). Notable factors were the degree to which stock markets are developed and the degree to which property rights are protected and enforced. A study looking at the impact of privatisation on performance efficiency of privatized state owned enterprises (SOEs) in **Nigeria** finds that the enterprises were more operationally efficient (Agba, Ushie, Agba, & Nkpoyen, 2010).

Other studies find no improvement in efficiency from privatisation. A study of firms in **Egypt** found no difference in the rate of efficiency improvements between 54 newly privatised Egyptian firms and a matching sample of control SOEs, from 1994 to 1998 (Omran, 2004). **Bulgaria** began comprehensive privatisations in the early 1990's, and a study of the impact found that ownership was not related to performance factors such as efficiency (Tatahi, 2012). A study looking at the effect of organisational change and privatisation on the performance of SOEs in **Iran** between 1998 and 2006 found that privatisation had no effect on efficiency but had increased debt and risk (Alipour, 2013). The author argues that privatisation must be accompanied by other reforms to the capital market, the national banking system, and to corporate rules and regulations.

Though greater competition often improves efficiency, it can also worsen it where institutions are weak. In some transition economies, increased competition created incentives for breaking contracts, thereby reducing efficiency (Blanchard & Kremer, 1997).

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