

Does Privatising Provision Reduce Accountability for Public Services?

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Abstract

This paper shows how privatising service provision (shifting control rights and contractual obligations to providers) can: (1) demotivate the government from investigating and responding to public demands, by allowing the provider to holdup the government's service adaptations; (2) demotivate the public from mobilising to pressure for service adaptations through an indirect holdup wherein the government pays an inflated adaptation price out of public funds. Strategic complementarity reinforces these effects and the accountability concern is further exacerbated when outsourcing contracts span an election, because opposition parties that make service quality commitments would then face an extreme inherited holdup.

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“[T]he key to reforming the public sector is not the profit motive, but democracy and accountability.”¹

1 Introduction

Privatised provision is becoming increasingly common even for publicly funded services. Since full public funding rules out the direct accountability of providers to individual consumers through market pricing, political accountability is crucial. The public must pressure the political actors who in their turn must pressure the service providers. In this paper, I analyse how privatising service provision affects this accountability mechanism.

A major concern, frequently raised in political debates, is that privatising provision may make it more difficult for the government to adapt service provision in response to problems or changing public demand. The recent experience of the British government with free school dinners offers a good illustration. In the aftermath of a series of critical television reports on school dinners by celebrity chef Jamie Oliver in early 2005, the British government rushed to quench mounting public discontent by committing to higher quality standards. However, state schools that outsource catering were unable to force their providers to meet these standards; Lawrence and Quarmby (2005) reported how schools “locked into 25-year contracts through private finance initiatives are finding that they cannot rid their menus of junk food despite the government’s pledge”. By contrast, state schools with publicly managed catering were able to quickly adapt to the public demand for healthier school dinners.²

To analyse the adaptation inflexibilities suggested by this example, I present a model of service provision that adds two novel features to Hart, Shleifer and Vishny’s (1997) model, henceforth denoted HSV. In HSV (and other formal analyses), the public are passive bystanders and the government is not involved in adaptation.³ However, politicians must investigate public demands and ways to satisfy them if they are to be accountable. Furthermore, if the public want to hold their politicians accountable, the public must discover their own

¹David Hinchliffe, Chair, House of Commons Health Select Committee, in Pollock, Shaoul and Player (2001).

²For most state schools, the contracts with catering companies are shorter (five years) but still problematic, because it is hard for activists to stay mobilised and maintain issue’s salience for long. E.g., in Islington, London, where a private company called Cambridge Education Authority (CEA) runs all the state schools, CEA signed 5-year contracts outsourcing provision of school dinners to a private caterer (Scolarest) and CEA’s schools have (so far) neither managed to negotiate an opt out from Scolarest, nor an improvement in Scolarest’s service quality.

³Hart (2003) explains the existing focus as follows: “the idea that government ownership leads to more entrepreneurship by bureaucrats seems less [plausible].”

preferences, communicate these preferences to the politicians, and mobilise to pressure for service improvements (say by raising public awareness to increase the likelihood that voters will take account of service quality when voting over the mayor's reelection). So in my model: (1) the government (e.g. town mayor) exerts effort to understand and calculate how to respond to public demands; (2) third parties – the public – exert efforts to evaluate service quality, discover feasible alternatives and pressure for change. I show that when the government cannot anticipate desirable service adaptations in its outsourcing contracts, it has to pay more for these adaptations under private than public provision. My main result is that this cost inflation demotivates the government and the public from exerting the above efforts that are central to accountable service provision. I also show that politicians are biased towards selecting the private over the public mode of provision, because privatisation reduces the public's efforts to hold politicians accountable.

My accountability results have similar predictions regarding the effect of privatisation on quality, to existing theories, such as HSV. However, those theories cannot explain why consumers might, as in Kwoka's (2002) dataset, benefit from lower unit prices when a service is publicly managed. By contrast, the accountability mechanism can explain this, because privatisation dissuades the public from mobilising to pressure the government to restrain consumer prices.

I illustrate my main contributions in the context of school dinner provision in a small village school. A village mayor runs the local government. The mayor is too busy to manage the catering directly so she pays a manager to provide the school dinners.⁴ In the case of public provision, the mayor retains control of the assets needed for catering and pays the manager to devote time to run the service according to her orders. By contrast, when the mayor opts for private provision, she gives the manager significant control rights and signs a long-term contract guaranteeing the manager a fixed payment in return for a well-defined catering service. As in HSV, privatising provision increases the manager's incentive to invest to cut costs: under public provision, the mayor can hold up the manager by paying less after the manager cuts his cost, whereas a private provision contract fixes what the mayor must pay for the basic catering service. So privatisation can increase cost efficiency.

Unlike in HSV, the underlying problem with privatisation is that it often prevents the mayor from exploiting adaptation gains in the absence of the manager's cooperation. For instance, if activists convince the mayor that healthier ingredients are crucial, the mayor

⁴The public pay for the service indirectly through taxation, but the mayor spends the money on their behalf. (The absence of user charges is unavoidable in the case of pure public goods. Also this is often chosen on the grounds of efficiency (because of externalities) or ethics.)

cannot oblige the private manager to adapt the menus and it is usually ineffective for the mayor to pay an alternative manager to provide healthier food alongside the basic service from the incumbent manager, since that would waste economies of scope in catering (as well as much of the incumbent's basic food service).⁵ By contrast, under public provision, the mayor can usually replace or sideline the incumbent catering manager for disobeying orders to adapt to healthier ingredients. So a private, but not a public, manager can hold up the mayor for a share of the mayor's gain from adaptation. This holdup demotivates the mayor from attentively listening to public demands and working out how to satisfy them.

The private manager can also indirectly hold up the activists. Activist pressure raises the mayor's adaptation benefit. The private manager therefore charges the mayor an inflated price for adaptation.⁶ Since the mayor pays using public money, this price inflation demotivates the public from participating in service evaluation and pressuring for service improvements. Privatisation therefore exacerbates the free-rider problem faced by the public in mobilising to improve public services.

These direct and indirect holdup effects are usually mutually reinforcing: the mayor has no incentive to investigate public concerns if the public do not mobilise enough to hold the mayor accountable for service quality; conversely, the public only benefit from mobilising if the mayor is receptive to pressure. So overall, there is a clear tradeoff between keeping catering in-house to raise dynamic accountability and outsourcing to raise the provider's cost-cutting incentives.⁷

The sharpness of this tradeoff depends on the difficulty of accessing alternative providers alongside a long-term contract. I therefore apply Ellman (2006) to predict where privatisation will be particularly harmful to accountability. Since increasing the length of the contract used to privatise provision increases the difference between the private and public modes, the accountability concern is particularly serious for privatisation projects, such as build-and-operate public-private partnerships (PPPs), that require very long-term contracts. Indeed, if a candidate for mayor wins the election on a ticket committing to fix the service problem, this new mayor would inherit a particularly pernicious holdup, since her entire reputation for honesty is at stake.

⁵The basic service contract may even contain an exclusive territory clause that directly prevents the mayor from side-trading with alternative caterers.

⁶The public cannot negotiate directly over service adaptation, except in extreme cases of direct democracy (see discussion).

⁷Given the ambiguity in empirical evidence on cost, it is noteworthy that in my model, the total service cost may actually be higher under privatisation, in spite of greater provider efficiency, owing to adaptation cost mark-ups (inflation).

My model permits a simple positive analysis of the privatisation decision. Since voters cannot negotiate with the mayor, electoral competition may not lead the mayor to do exactly what the voters want. The mayor may benefit from being able to please the public by implementing adaptations, but the mayor’s preference for privatisation tends to exceed that of the median voter. Politicians are biased towards selecting the private over the public mode of provision, because privatisation reduces the public’s efforts to hold politicians accountable. Private provision is therefore less likely when privatisation is decided by referendum and when mayors can commit to a public or private policy in their electoral platforms.

The paper is organised as follows. Section 2 presents the basic model of service provision. Section 3 solves the model for subgame-perfect equilibria when the provision mode is predetermined. Section 4 solves for the provision mode, first when chosen by the government and then when chosen by the people. Section 5 presents the public pressure version of the model. Section 6 demonstrates the inherited holdup problem from contracts that span elections. Section 7 discusses the results and applies them to help understand specific case studies of privatised services. Section 8 concludes.

1.1 Related Literature

As noted above, the building block for my analysis of privatisation and residual control rights is HSV. Hart, Shleifer and Vishny identify a tradeoff between privatising to raise cost-cutting incentives and public ownership to increase quality investments. However, the mechanism by which privatisation reduces quality is very different. In HSV, the government makes no investment, but privatisation can lead to excessive incentives to cut cost because cost-cutting lowers quality in their model. Hart (2003) extends the analysis by studying the bundling of construction and service provision in PPPs, but retains the view that government ownership is unlikely to lead to more entrepreneurship. By contrast, I argue that politicians play an important role in generating change, even if their only role is to investigate public preferences and activism to discover which changes will help them win future elections.

HSV and other existing theories (including those based on multi-tasking) derive quality problems as a “negative externality” of the higher incentives generated by privatisation. My accountability explanation shares the low quality prediction, but the mechanism – accountability – is very different. Hence the unique ability to explain Kwoka’s (2002 and 2005) evidence.⁸

⁸There is a limited amount of statistical evidence that suggests public pressure changes with provision mode. For instance, privatisation of electricity utilities was widely predicted to lower consumer prices, but Kwoka (2002 and 2005) compares public and private provision of electricity in the U.S. and finds that “public ownership is associated with significantly lower [residential consumer] prices” as well as higher quality (see Kwoka (2005)).

My model also builds on the adaptation cost theory of Ellman (2006). I apply the optimal length results to the case of contracts between government and firms with - whereas Ellman (2006) looked at contracts in non-political situations. Furthermore, I explicitly model the public's activist and voting roles.⁹

There is a host of other related work on privatisation in the case of standard production. One important alternative perspective maintains that privatisation reduces government access to information (see e.g. Shapiro and Willig (1990) and Schmidt (1996)). My analysis can be consistent with this approach because if privatisation increases the risk of asymmetric information, it should increase the risk that asymmetric information arises and prevents the government and provider from agreeing on the terms of trade valuable for adaptation – the “undertrading problem”. The government is then less responsive to public demands and the public have less incentive to mobilise.¹⁰

My work is also linked to the literature on political economy. Bennesen (2000) develops a common agency model where politicians adjust/distort their policies to earn contributions from lobbyists. The public are passive except at elections where they are susceptible to persuasion by well-funded political parties, but the behaviour of the union lobby has some parallels with the activist public in my model. Privatising control demotivates lobbying by unions. This fits the intuition behind my results that increasing governmental control rights makes it more worthwhile to apply pressure on the government. My analysis demonstrates that the intuition holds for pressure (or participation) from the general public and not just pressure from organised lobbyists.¹¹ My model also offers a more direct illustration of the intuitive idea.¹²

My theory suggests the explanation that the public are more active and effective in pressuring the government to subsidise or regulate consumer prices when the utility is publicly owned. Since price caps can be contracted on in advance, HSV cannot explain this phenomenon.

⁹In a sense, my results on public activism and participation capture the idea of Milgrom and Roberts (1988) that reducing the mayor's discretion reduces the degree to which the public exert effort to influence the mayor's choices. The difference is that influence is desirable in my model.

¹⁰Another important perspective is that of Laffont and Tirole (1991) who show that privatisation introduces a common agency problem because of the new set of principals - the shareholders. My analysis effectively adds yet another set of principals - the voters - whose control is limited to voting in elections.

¹¹Bennesen (2000) also analyses a separate aspect of privatisation: the role of shareholders. He shows how privatising ownership of cash-flow rights (corporatisation) creates a shareholder lobby that counterbalances the union lobby (because high employment reduces shareholder profits). As in HSV, the manager is also full owner in my model of privatisation, so I do not separately analyse cash-flow rights, but I do capture how privatisation raises the manager's cost-cutting incentives.

¹²My model is simpler, being based on incomplete contracts rather than restricted negotiation – Bennesen (2000) requires that shareholders and unionists can contract with the government but cannot negotiate with

I consider two interpretations of the public's role in service adaptation. In the first interpretation, the public participate by giving the mayor information and the mayor has a fixed electoral or ethical incentive to respond. In the second interpretation, the public apply pressure on the mayor. This interpretation is founded on Besley and Burgess's (2001 and 2002) approach to accountability: the government is more responsive if people are more aware of how government actions affect them. In Besley and Burgess's work, the freedom of the press determines public awareness and hence government accountability. In my analysis, it is activist members of the public who determine awareness and accountability. For instance, activists can encourage, persuade and help newspapers to report on the public service issue.

2 Service provision model

This section motivates a two-sided representation of political accountability and then presents the model of service provision.

2.1 Accountability and adaptation

The government G - which could be a local government, a mayor or the elected head of a public agency - pays for a public service. G can choose between "outsourcing" the provision of this service to a private organisation and organising provision "in-house". I refer to outsourcing as "privatisation" of service provision, but service funding is always public in that consumers never pay. Under public provision, G retains ownership and control; G can negotiate M 's service provision over time (paying M 's managerial compensation and other input costs). Under private provision, M has sufficient residual rights of control to provide the service free of interference by G ; G then typically commits to reward M for providing a basic public service via a long-term contract which they adapt over time. Notice that service adaptation requires ongoing negotiation under both governance structures.

Adaptation is important because public preferences change and improved policies and technologies are discovered. As elected delegate of the public, it is G 's job to pressure M to adapt the public service to satisfy changes in the effective public demand. Unfortunately, G may fail to implement adaptations, either because G is unaware of changes in public demand or how to satisfy the changes or because G does not value the changes owing to G 's opportunism and the weakness of the democratic pressure on G . Furthermore, M might refuse to make the changes at a reasonable price and G might have difficulty getting a substitute M' for M to implement each other. My analysis applies best to effective democracies where money from lobbyists is restricted by law and campaign spending is less effective at convincing voters than good performance and attractive policies.

the changes.

So adaptation requires G to learn of attractive adaptation opportunities and negotiate implementation with M or substitute partners, but G is not the only party active in this process. Public participation in investigation raises the likelihood of discovering valuable adaptations. Public participation in politics (communication) raises the chance that G understands public preferences.¹³ To model the public's role in creating accountability, I introduce an action group, A, to represent the aggregate behaviour of the active public or an activist subset of the public: A internalises a fraction a of the public benefits and chooses an investment effort j that represents the cost of A's efforts to raise accountability.¹⁴ To model G's role in creating adaptation opportunities, I represent G's efforts to discover what the public want and how to satisfy their demands by the payoff cost i that these adaptation efforts impose on G.

The combination of G and A's efforts, i and j , determine the public's expected gain $V(i, j)$ from implementation (at actual cost) of the best available service adaptations.¹⁵ I assume G internalises a fraction g of public welfare, where g represents G's benevolence (public-service orientation) and/or G's electoral motivation to gain public approval.¹⁶ So G and A's average (at cost) adaptation gains are $gV(i, j)$ and $aV(i, j)$, respectively. In equilibrium, G may have to share its adaptation surplus with M by paying a transfer that exceeds M's adaptation cost by t ; this reduces public welfare by λt ($\lambda > 1$ represents the distortionary cost of taxation), so it reduces G's payoff by lt where $l = \lambda g$ and A's payoff by $a\lambda t$.

¹³Below, I analyse how the public can also influence adaptations by applying pressure on G. E.g. they can monitor, evaluate and publicise information about G's service provision performance so that voters take G's performance into account in the next election or they can help opposition parties to compete more effectively against G. Public pressure is related to public participation, since both involve investigation to discover what they public want (e.g. by finding problems and possible improvements) and communication (to let G know of the improvement options and, in the case of activist pressure, to convince voters and let G know that voters are watching).

¹⁴I defer discussion of a heterogeneous public and special interest lobbies to section 7. If the public is homogeneous and uncoordinated and aggregate mobilisation $j = \sum_{n=1}^N j_n$ (where j_n are simultaneously chosen individual efforts) determines activist success, then free-riding generates the same outcome as occurs when a single agent chooses and pays the aggregate effort j (while receiving fraction $\frac{1}{N}$ of the aggregate social returns). In this case, $a = \frac{1}{N}$. If instead m members of the public can coordinate their efforts, the equilibrium equivalent to the setting with $a = \frac{m}{N}$.

¹⁵#Adaptations follow from combining an informed public that knows what to demand and how to apply political pressure, with an informed government that learns of these demands, knows how to respond and is motivated to do so. So the probability and value of adaptations, combined in the expected value, is a useful measure of effective accountability.

¹⁶Section 5 for discussion and a public pressure interpretation of j wherein j endogenises how far G internalises public welfare.

To simplify the description of G's negotiations, I define $v(i, j) = gV(i, j)$ and work with $v(i, j)$ (i.e. G's value from the best feasible adaptation) instead of $V(i, j)$; the public's value is then $\frac{1}{g}v(i, j)$ and A's value is $\frac{a}{g}v(i, j)$.

2.2 Formal model

G, M and A interact within a minor extension of the incomplete contracts game analysed in Ellman (2006). Ellman (2006) adds adaptation investments (with limited relationship-specificity) and variable contract length to HSV. The extension here is to add a third party (A) that can influence the principal actors, G and M, but cannot negotiate contracts with them. G and M can always write a basic service contract which generates b_0 payoff units for G per unit of time, while costing $c_0 - w(e)$ per unit of time when M is the provider and has invested effort at a private payoff cost of e . To capture the possible incentive advantage of privatisation, I assume that this cost-reduction investment by M is fully relationship-specific: i.e. if M does not provide some service for G, neither M nor G gets any benefit from e . Meanwhile, as motivated in 2.1, G and A make adaptation investments at private costs i and j , respectively. These investments permit G and M to implement an adapted service agreement that generates an additional surplus of $v(i, j)$ for G if G just compensates M for M's adaptation cost and potentially also generate benefits for G when trading with alternative providers as explained below. M's adaptation cost is independent of e : e reduces M's costs by the same amount whether providing the basic or the adapted service.

The focal investments, e , i and j , are not contractible and nor are their payoff implications $w(e)$ and $v(i, j)$. I normalise time discounting to zero and assume all payoffs are additively separable. The following regularity assumptions simplify by guaranteeing sufficiency of first-order conditions.

Assumption 1 $w''(e) < 0 < w'(e) \forall e \geq 0$ and $\lim_{e \rightarrow 0^+} w'(e) = \infty$, $\lim_{e \rightarrow \infty} w'(e) = 0$.

Assumption 2 $v(i, j)$ is negative semi-definite and $\lim_{i \rightarrow 0^+} v_i(i, j) = \lim_{j \rightarrow 0^+} v_j(i, j) = \infty$, $\lim_{i \rightarrow \infty} v_i(i, j) = \lim_{j \rightarrow \infty} v_j(i, j) = 0$, $\forall i, j \geq 0$.

After M, G and A sink the investments e, i, j , M could switch to its best alternative activity, which generates an alternative payoff of 0, and G could switch to trading with a substitute M' of M. I assume M' can provide the basic service at a cost c'_0 that weakly exceeds c_0 , since M may have had a prior cost advantage or sunk contractible relationship-specific investments (in addition to the optional relationship-specific investment e). I assume that M' 's additional cost of providing the adapted service is the same as for M. Furthermore, I assume competition is such

that G need only compensate M's costs. So G's payoff from switching to M' is $b_0 + v(i, j) - lc'_0$.¹⁷ I assume $c'_0 < \frac{b_0}{l}$, so this payoff always exceeds G's payoff from doing nothing (and G credibly replaces or sidelines an uncooperative manager M).

If G and M commit to the basic service through a long-term contract (with prohibitive breach penalties), then they cannot switch to alternative trading. Nonetheless, since this basic contract only implements the basic service, in default of renegotiation with M, G might gain by engaging in a "side-trade" whereby a substitute provider M' provides the service adaptation alongside the basic public service provided by M. G's market access tends to be much less effective under side-trading than when switching – switching refers to substituting M by M' when M has no long-term contract). The main reasons are that: 1) duplicating the basic service is usually too wasteful to be credible, and it may be technologically impossible to provide the adaptation separately from the basic service; 2) even when it is technologically feasible to have M' provide the adaptation alone, to do so wastes economies of scope that accrue when a single party provides and coordinates the basic and adaptation services; 3) the long-term contract used to motivate M's performance under private provision may temporarily transfer control rights from G to M or simply restrict G to buy exclusively from M. I refer to Ellman (2006) for formal details and section 7 for a discussion of these problems in common public service settings. Here, I capture G's reduced market access by assuming that side-trading only increases G's payoff from the basic contract $b_0 - p$ (at transfer price p) by $(1 - k)v(i, j)$, where $k \in (0, 1]$. I refer to $1 - k$ as the "side-compatibility" of the adaptation investment with the basic service contract; side-compatibility is full if $k = 0$ and zero if $k = 1$. Meanwhile, M's payoff from the basic contract is $p - c_0 + w(e)$ and M's payoff from side-trading is independent of e, i, j so I assume it is zero.

Public welfare from the service and its tax implications is simply given by adding i to G's payoff and multiplying by $\frac{1}{g}$. Multiplying this by A's internalisation factor a and subtracting j gives A's payoff.¹⁸ For instance, if G pays M for the adapted service with monetary transfers exceeding M's costs by t , the overall payoffs of G, M and A are

$$\begin{aligned} u_G &= b_0 + v(i, j) - lt - i \\ u_M &= t - c_0 + w(e) - e \end{aligned}$$

¹⁷Recall that $v(i, j)$ is G's benefit when G pays M a transfer that exactly compensates for M's costs of adaptation. E.g. an adaptation worth S to G but costing c to the provider M offers G a potential gain of $v = S - lc$. (The results are fully robust to the extension where i and j are partially specific to M.)

¹⁸In the case where j changes the political pressure on G, this statement only holds true when restricting to adaptations that are attractive to G and M – see 3.4. This weaker statement is sufficient for my results since A cannot negotiate with G and M during service provision.

$$u_A = \frac{a}{g} (b_0 + v(i, j) - lt) - j$$

where, in equilibrium, t may depend on e, i, j since t is (partly) determined through negotiation after e, i, j are chosen.

Timing: In stage 0, G chooses whether to outsource the public service or produce it in-house and G negotiates a preliminary agreement with the public or private provider (managed by) M. At this stage, G and M only have sufficient knowledge to agree on the basic service contract. I characterise private provision by G and M's choice to sign this contract committing M to provide the basic service, generating the value b_0 per unit of time for G, over a period of time $\alpha \in [0, 1]$ in return for a fixed payment, which I denote by $p_0(\alpha)$.¹⁹ I characterise public provision by G and M's choice to avoid the basic service contract; instead, M commits to work for G in return for a compensation package that includes an initial transfer w_0 for M's exclusive dedication to G during stage 1. In stage 1, G, M and A choose their investments i, e and j . In stage 2, G and M learn about possible service adaptations and also learn each other's payoffs from each feasible agreement. At this point and throughout stage 3, which lasts for 1 unit of time, G and M can (re)negotiate to implement either the basic service or the best adapted service discovered.

G and M have symmetric information throughout. I assume they reach agreements for stage 3 that are efficient from their bilateral perspective and they divide renegotiation surplus according to a symmetric Nash bargain. Unlike most incomplete contract models, utility is not transferable because while M gains t from G's transfer t , G's payoff only falls by lt . If G is nonchalant about the cost of public funds, i.e. if l is small, G is a weak bargainer and M extracts a higher share of the renegotiation surplus. For instance, in the Nash bargain over the transfer $t + c$ from G to M for an adaptation worth $v + lc$ and costing c , t will be chosen to maximise $(v - lt)t$. So $t = \frac{v}{2l}$; G's payoff share is $\frac{v}{2}$ but M's payoff share t is decreasing in l . Notice that when the direct incidence of a surplus opportunity falls on M instead of G, as with M's cost advantage $w(e) + c'_0 - c_0$, the maximal value for G is $l(w(e) + c'_0 - c_0)$ rather than $w(e) + c'_0 - c_0$.

In all cases, it is ex post (stage 3) optimal for G to get M to provide the service, since c'_0 strictly exceeds $c_0 - w(e)$ for any $e > 0$. So adaptations are always implemented by M whenever attractive to G and M. The next three subsections show that privatisation still matters, because the governance structure determines the equilibrium levels of e, i and j .

¹⁹I follow HSV in simplifying by treating manager owned firms. Notice that private provision often also involves transfer of residual rights of control from G to M, at least for the duration, α , of the contract. The reason is that delegating control rights to M and long-term contracting with M are complementary tools in protecting M's self-investments from holdup. I discuss this simple extension below.

2.3 Effort under public provision

Under public provision, M has to be continually motivated to implement the basic trade so, in default of renegotiation with M, G would turn to an alternative manager M' who implements the adapted service. In this default, G exploits i and j but cannot exploit M's specific investment e .²⁰ G's default payoff is

$$b_0 - lw_0 - lc'_0 + v(i, j)$$

M's default payoff is simply w_0 .²¹ So G's maximal gain from renegotiation is $l(w(e) + c'_0 - c_0)$. G's actual renegotiation gain is therefore $\frac{l(w(e)+c'_0-c_0)}{2}$ and M gains $\frac{w(e)+c'_0-c_0}{2}$. To solve for the subgame perfect equilibrium, I add the default payoffs to each party's renegotiation gain. G chooses i to maximise

$$b_0 + v(i, j) - l(w_0 + c'_0) + \frac{l(w(e) + c'_0 - c_0)}{2} - i \quad (1)$$

and M chooses e to maximise

$$w_0 + \frac{w(e) + c'_0 - c_0}{2} - e \quad (2)$$

Since adaptations have an externality on A, A chooses j to optimally influence the outcome: j maximises

$$\frac{a}{g} \left(b_0 + v(i, j) - l(w_0 + c'_0) + \frac{l(w(e) + c'_0 - c_0)}{2} \right) - j \quad (3)$$

The efforts sunk at the investment stage (stage 1) are therefore characterised by the first-order conditions,

$$v_i(i, j) = 1 \quad w'(e) = 2 \quad \frac{a}{g}v_j(i, j) = 1 \quad (\text{FOCpublic})$$

2.4 Effort under private provision

Under the long-term contract used for privatisation, in default of renegotiation, G can only appropriate a fraction $1 - k$ of the adaptation return $v(i, j)$ for the duration of the contract.

²⁰My assumption that e is fully specific to M as well as to G is valid when M has specific knowledge or e is a human capital investment, but does not allow for the possibility that public provision might permit G to appropriate some of the returns on M's investment e by exploiting M's ideas and asset-specific investments without M's cooperation (c.f. HSV). This would increase the holdup of e under public provision.

²¹These are the payoffs in default of renegotiation throughout the whole of stage 3. Ellman (2005) proves that for payoff structures that are stationary during stage 3, the game with ongoing renegotiation is equivalent to the game with renegotiation at stage 2 alone.

So if the contract has length α , G's default payoff is

$$\begin{aligned} & b_0 - lp_0(\alpha) - l(1-\alpha)c'_0 + (\alpha(1-k) + (1-\alpha))v(i, j) \\ &= b_0 - l(p_0(\alpha) + (1-\alpha)c'_0) + (1-\alpha k)v(i, j) \end{aligned}$$

Meanwhile, the contract, while it lasts, protects M's cost-reduction efforts: the contract forces G to pay a fixed price for the basic service and M appropriates the full cost reduction $w(e)$ over fraction α of stage 3; M's default payoff under privatisation is

$$p_0(\alpha) - \alpha(c_0 - w(e))$$

G's maximal gain from renegotiation is therefore $l(1-\alpha)(w(e) + c'_0 - c_0) + \alpha kv(i, j)$. G and M's respective renegotiation gain equal $\frac{1}{2}$ and $\frac{1}{2l}$ of this sum. So G chooses i to maximise

$$b_0 - l(p_0(\alpha) + (1-\alpha)c'_0) + \left(1 - \frac{\alpha k}{2}\right)v(i, j) + \frac{l(1-\alpha)}{2}(w(e) + c'_0 - c_0) - i \quad (4)$$

and M chooses e to maximise

$$\begin{aligned} & p_0(\alpha) - \alpha(c_0 - w(e)) + \frac{l(1-\alpha)(w(e) + c'_0 - c_0) + \alpha kv(i, j)}{2l} - e \\ &= p_0(\alpha) + \frac{1+\alpha}{2}(w(e) - c_0) + \frac{1-\alpha}{2}c'_0 + \frac{\alpha kv(i, j)}{2l} - e \end{aligned} \quad (5)$$

Again A responds to the externalities by choosing j to maximise

$$\frac{a}{g} \left(b_0 - lp_0(\alpha) - (1-\alpha)lc'_0 + \left(1 - \frac{\alpha k}{2}\right)v(i, j) + \frac{l(1-\alpha)}{2}(w(e) + c'_0 - c_0) \right) - j \quad (6)$$

This generates the first-order conditions

$$v_i(i, j) = \frac{2}{2-\alpha k} \quad w'(e) = \frac{2}{1+\alpha} \quad \frac{a}{g}v_j(i, j) = \frac{2}{2-\alpha k} \quad (\text{FOCprivate}, \alpha)$$

3 Accountability comparisons

The above two sets of first-order conditions demonstrate how privatisation increases M's incentives to cut cost from half of $w'(e)$ in (FOCpublic) to the higher fraction $\frac{1+\alpha}{2}$ of $w'(e)$ in (FOCprivate, α), but at the same time decreases G's incentives to support adaptations down from the full marginal incentive $v_i(i, j)$ to the fraction $\frac{2-\alpha k}{2}$ of $v_i(i, j)$. Privatisation also decreases A's incentives to work for adaptations - owing to the indirect holdup explained in subsection 3.2 - from the full margin $\frac{a}{g}v_j(i, j)$ down to the fraction $\frac{2-\alpha k}{2}$ of $\frac{a}{g}v_j(i, j)$. Furthermore, when i and j are strategic complements, privatisation's negative effects on i and j are mutually reinforcing as I show in subsection 3.3. To clarify the accountability interpretations of these effects, I describe in turn the cases where A takes no action, where G takes no action and then the common case where A and G's efforts are strategic complements.

Notice that, by ruling out permanent transfer of control rights, I have ensured that public provision is equivalent to setting $\alpha = 0$. If instead I assumed that privatisation involves transfer of specific assets from G to M, public provision would generate higher adaptation incentives than private provision even at $\alpha = 0$, because M could then hold up the asset-specific component of i and j even after the contract expires. G rarely transfers ownership of unique assets to M, since that would preclude competition among alternative providers - one of the intended goals of provider privatisation. Nonetheless, in addition to conceding significant control rights to M on a temporary basis, G may let M own some specific assets under privatisation. In addition to the fact that employment (here public provision) often imposes increased obligations on M (because G has to buy M's time by restricting M's alternative activities in stage 1 - see Ellman (1999) and Levin and Tadelis (2005)), this augments the contrast between public and private provision, reinforcing the results that I derive here. Another contrast is that the public mode of provision avoids the transaction costs of designing a reasonable private contract - see Bajari and Tadelis (2003). This increases the likelihood of the corner solution $\alpha = 0$ representing the public mode of provision.

3.1 Government attentiveness

To isolate the effect of privatisation on G's incentives, I first analyse the case where $v = v(i)$, independent of j . I interpret $v(i)$ as a measure of G's success in identifying adaptations that are valued by the public. So i represents G's efforts to pay attention to public concerns about service quality. These efforts enable G to discover adaptations that are valued by the public and likely to be salient at the time of G's re-election. For instance, when there is a public demand for a concrete change, i raises the probability that G recognises that the demand is serious (enough to affect G's reelection) and/or i raises the probability that G works out how to satisfy public demands.²² So $v(i)$ can be interpreted as a measure of G's responsiveness to public demand - how likely it is that G manages to at least placate the general public. The more attentive G is, the more likely G can and will respond.

²²Notice that I plausibly assume G does nothing when unsure what adjustments are demanded. My model would need a minor change if G's prior beliefs induce G to make the adaptation when only able to access the prior. G's investigation efforts would then reduce the probability that G responds to the public demand for adaptation. However, in this case, it is easy to show that G would investigate *more* rather than less under privatisation - the reason is that G's investigations would then reduce exposure to holdup by M. So privatisation still reduces accountability.

Under public provision, G's effort i is determined by the first order condition, $v'(i) = 1$ (as shown in equation (FOCpublic)). M is unable to hold up G, because investment i is general and G can therefore exploit i by replacing or sidelining an uncooperative M. In contrast, under private provision, M can hold up G, because i is an adaptation investment and the greater the basic contract's duration α , the longer G must wait before able to access effective market alternatives. G's incentive is thereby reduced by the fraction $1 - \frac{\alpha k}{2}$, as shown in equation (FOCprivate, α). Accordingly, $i^{public} > i^{private,\alpha}$ for any contract of length $\alpha > 0$ and privatisation reduces G's attentiveness by more, the greater is α (since $1 - \frac{\alpha k}{2}$ falls with α). Since the social return on i is given by $\frac{1}{g}v(i)$ and $g < 1$, public provision also generates under-attentiveness. So private provision, by exacerbating this problem, is clearly harmful to accountability. The following proposition records these points along with the, now well-known, advantage of privatisation – namely, that long-term contracting increases M's incentive ($\frac{1+\alpha}{2}w'(e)$) to cut provision costs.

Proposition 1 *For a fixed level of public pressure j or for v independent of j , government attentiveness and equilibrium responsiveness to public demand are higher, but cost efficiency is lower, when the service is publicly provided than when the service-provider is private. Increasing the contract length α of a private provider augments these differences. $e^{public} < e^{private}(\alpha)$, $i^{public} > i^{private}(\alpha)$, $\forall \alpha > 0$ and $\frac{de^{private}(\alpha)}{d\alpha} > 0$, $\frac{di^{private}(\alpha)}{d\alpha} < 0$.*

In sum, privatisation requires long-term contracts and transfer of control rights to protect M's investments e in cost reduction from G's market threats, but these long-term contracts and reduced control rights reduce G's access to market alternatives that protect G's adaptation investments. So privatisation reduces G's holdup of M's self-investments (in cost-reduction), but increases holdup of G's adaptation investments at the hands of the private provider. The message of this subsection is that privatisation encourages M's cost reduction but demotivates G from working to understand and satisfy changing public demand. Proposition 1 demonstrates the tradeoff in section 4 between privatising to raise cost-efficiency and keeping provision public to raise accountability.

This result is directly relevant for situations where public pressure is essentially independent of government attentiveness and of service privatisation. For instance, where voters are passive except during elections or A is an action group whose members have a fixed time and budget constraint. However, in general the public, or at least some of its members, play an important role in generating political accountability as I explain next.

3.2 Public mobilisation

The holdup of G by M derived in the previous subsection hurts A because adaptations have a positive externality on A. In this subsection, I explain how the public/private choice determines whether M can also exert an indirect hold up on A.

I now focus on the case where v only depends on j . The effect is independent of the two interpretations of j so I describe only for the first interpretation, but here record again the two interpretations for completeness: (1) political pressure – j represents A’s efforts to mobilise to pressure G over the public service, and $v(j)$ reflects the degree to which the public manage to hold G accountable for making valuable service adaptations (e.g. $v(j)$ might measure the sensitivity of G’s future electoral success to current implementation of socially desirable adaptations); (2) simple participation – j represents public efforts to work out what service adjustments would be advantageous and communicate these ideas to the government (e.g. by participating in public service surveys and open decision-making processes, such as have been implemented in Porto Alegre and post-crisis Buenos Aires – see Baiocchi (2001), Heller (2001) and GCBA (2003)).

The indirect holdup is implicit in A’s first-order conditions – private provision reduces A’s adaptation incentives by the fraction $\frac{2}{2-\alpha k}$ – but I first describe the mechanics of the problem to clarify why I call this an indirect holdup. A invests effort j to pressure G to make an adaptation. This raises G’s value from adapting. Under private provision, G relies on M to implement the adaptation, so M can demand a share of G’s benefit. Because G transfers utility to M using public funds, A suffers when M holds up G. Since A is the investor, the real holdup is perpetrated by M against A, but it is indirect since A cannot negotiate with A. The basic intuition is that A only gains from pressuring its agent, G, if G can respond; while M allows G to respond in return for a payoff, when M demands a share of G’s adaptation return, this has a negative externality on A because G pays up using public funds.

Under public provision, G can force M to implement the adaptation at actual cost, so A evades the indirect holdup and A’s incentives to apply pressure are higher than under private provision. So again public provision has a clear advantage in terms of inducing accountability. The following proposition records this result and repeats the tradeoff of public accountability against privatisation’s cost-efficiency.²³

²³Strictly-speaking, I should say cost-reduction rather than efficiency, but in section 4 I prove that the incentives for e, i, j are never too high so increasing incentives raises efficiency and the statement is valid, albeit premature.

Proposition 2 *If v is independent of i or the level of government attentiveness i is fixed, both public mobilisation and the government's equilibrium responsiveness to public demand for service adaptation are higher when the service is publicly provided than when the service provider is private. Furthermore, mobilisation decreases with the length of contract α used to motivate the private provider. There is a tradeoff between privatisation with a long-term service contract which raises cost efficiency and public provision which leads to greater mobilisation and political accountability. Mathematically, $e^{public} < e^{private}(\alpha)$, $j^{public} > j^{private}(\alpha)$, $\forall \alpha > 0$ and $\frac{de^{private}(\alpha)}{d\alpha} > 0$, $\frac{dj^{private}(\alpha)}{d\alpha} < 0$.*

The formal derivation is exactly as for the previous subsection, except that A's incentives are scaled up by the multiplicative factor $\frac{a}{g}$ in both the public and private modes. As in the previous subsection, privatisation reduces the cost of the basic service by protecting cost-reduction investments, but it raises the equilibrium costs of service adaptation. This reduces the public's incentive to mobilise to pressure for adaptations. The new message is that privatisation exacerbates the problem of motivating the public to impose accountability on the government.

3.3 Strategic complementarity in accountability

Investments i and j are often strategic complements: the greater is G's attentiveness, the more sense it makes for A to investigate and communicate public preferences and to apply pressure on G; conversely, the more active is A, the more G can gain from being attentive to A and to service issues.²⁴ In this subsection, I show how strategic complementarity between i and j exacerbates the problem of privatisation, by analysing the mutual reinforcing knock-on effects of privatisation's direct effects on i and j . Even though i and j are chosen simultaneously, my assumptions ensure that equilibria are unique, and it is straightforward to prove that the effects identified in propositions 1 and 2 continue to hold, with an increase in the advantages from public provision.

Proposition 3 *If public pressure and government attentives are strategic complements – i.e. $v_{i,j}(i,j) > 0$ – then: (i) $e^{public} < e^{private}(\alpha)$, $j^{public} > j^{private}(\alpha)$, $\forall \alpha > 0$, $\frac{de^{private}(\alpha)}{d\alpha} >$*

²⁴There are two reasons why $v_{i,j} > 0$ might hold. First, communication is a two-sided activity: G must exert effort to listen to the demands of A (e.g. by inviting public participation and conducting surveys) or at least to monitor their political significance (in the case of public pressure on a reluctant government). So some degree of complementarity is always present and it is common to assume complementarity over the full range of relevant efforts (see e.g. Dewatripont and Tirole, 2005). Second, G's awareness of public preferences and public pressure only leads to adaptations if G knows how to satisfy these demands, so G's efforts in monitoring service provision and alternative provision options complement A's efforts to communicate and apply pressure.

0, $\frac{dj^{private}(\alpha)}{d\alpha} < 0$; (ii) v_{ij} raises $i^{public} - i^{private}(\alpha)$ and $j^{public} - j^{private}(\alpha)$ but has no effect on $e^{private}(\alpha) - e^{public}$.

Because of these complementarities, the timing of play is important. A sequential set-up in which the public move first (and the government observe this before moving) is plausible if one interprets the government's main receptiveness choice as one over effort to work out how to satisfy the mobilised public's demands. Having the public move second is relevant if, e.g., the government organises public meetings about service preferences and the public respond by supplying effort to actively participate in these meetings. The simultaneous setup that I treat here is relevant if the public cannot observe government efforts and the government must exert effort to discover the effectiveness of a mobilisation. The sequential time orderings reduce the likelihood of multiple equilibria and shift the effort levels, but do not interfere with the qualitative nature of my results.

4 The privatisation decision

The previous section solved for the implications of the public and private provision alternatives. In this section, I analyse the choice between these alternatives in two cases: first, when the government decides the provision mode and second, when voters decide. Note that voters decide if the private/public decision is made through a referendum. Voter preferences are also particularly influential when political parties are able to make electoral commitments over their plans to privatise or nationalise/municipalise. While costs of switching between private and public modes of provision (say from expertise and organisational capital that build up in support of the current provision mode) may generate a strong status quo bias not captured here, these costs make it all the more important to be able to predict the long-run comparative levels of social welfare under the alternative provision modes. This section helps to answer this question, because the endogenous level of accountability for adaptations is a key component of long-run service quality.

If both the markets for employee managers and service contractors are perfectly competitive at stage 0, the negotiation over w_0 (in the case where M is a public employee) or $p_0(\alpha)$ (in the case where M is a service contractor) ensures that M's average equilibrium payoff equals M's market opportunity cost which I denote by r . So w_0 and $p_0(\alpha)$ are determined by equating the expressions for u_M^{public} and $u_M^{private}$ from equations 2 and 5 with r . Substituting for w_0 and $p_0(\alpha)$ into equations 1 and 4, respectively, reveals that G's payoff is given by the bilateral surplus with M evaluated at the subgame-perfect levels of (e, i, j) :

$$u_G^{private, \alpha} = b_0 + v(i, j) - l(c_0 + r + e - w(e)) - i \text{ at } (e, i, j) \text{ satisfying FOC}_{private, \alpha}$$

$$u_G^{public} = b_0 + v(i, j) - l(c_0 + r + e - w(e)) - i \text{ at } (e, i, j) \text{ satisfying FOC}_{public}$$

Whenever G chooses the private mode of governance, G chooses the contract length α that maximises $u_G^{private, \alpha}$. As explained in section 3 (indented text), I have set up the model so that public provision is represented by the corner solution in which it is optimal for G to set $\alpha = 0$. This permits almost direct application of the results from proposition 4a of Ellman (2006): increasing l is equivalent to raising the “importance” of self-investment e , so from G and M’s perspective, the optimal contract length increases with l . In particular, there exists \hat{l} such that it is optimal to set $\alpha = 0$, i.e. to adopt the public provision mode, for all $l > \hat{l}$. (Since this cut-off is determined by G’s preference, I write \hat{l}^G .) To simplify, I assume $w'''(e)w'(e) < 4(w''(e))^2$ and the same for v with respect to i and j – these are sufficient conditions for all the problems of (G and A and the public) optimising over α to be regular.²⁵

Proposition 4 *If the government places sufficient weight on the quality of the public service relative to the cost of public funds, the government prefers public to private provision:*

$$\exists \hat{l}^G : l \leq \hat{l}^G \Rightarrow u_G^{public} \geq \sup_{\alpha} u_G^{private, \alpha}$$

This result is intuitive. From G and M’s perspective, i and e should be such that $w'(e) = 1$ and $v_i(i, j) = 1$ and the higher is j , the better. So they are concerned about underinvestment in e , i and j . Privatisation raises e towards the optimum level, but exacerbates the underinvestment in i and j since it reduces G’s ability to appropriate the returns from improving service quality.

5 Public pressure and accountability

In the introduction, I presented two leading interpretations of the accountability mechanism. In the first interpretation, accountability is enhanced by discovery and communication of adaptation alternatives. In the second interpretation, accountability is increased by pressure that increases G’s sensitivity to public concerns. In this section, I first show how the pressure and communication interpretations can be consistent with my payoff assumptions. I then explain why public pressure tends to decrease G’s payoff and derive the implications of this adjustment in the model.

²⁵The proof of proposition 4 reveals one minor complication for applying the proofs from Ellman (2005): since j is chosen by a third party (A), the costs of j are neglected by G and M; this changes the form of the optimand, but the benefit through j from increasing α ($v_j(i, j)j'(\alpha) > 0$) is independent of l , so the proposition remains valid. (One could generate more general results about G’s, A’s and society’s, preferred value $\hat{\alpha}$, but instead I focus on the public versus private choice.)

When i and j represent pressure and communication, the degree to which G internalises public welfare becomes endogenous. The correlation between G and A's payoffs is, in general, more complicated in this case. For instance, publicity that affects G's value of an adaptation, need not have any effect on the public's value of that adaptation. Nonetheless, publicity raises the likelihood that the adaptation will be implemented by G and M *in equilibrium*. It is as if adaptations that are not sufficiently politically salient to be attractive to G had not been discovered. So publicity investments have a similar effect to participatory investments that help discover useful adaptations. I illustrate how G and A's payoffs may be proportional with the case of a single possible service adjustment, such as fixing a problem in the public service that becomes apparent over time. Suppose that j raises the probability $q(j)$ that the service adaptation is as politically salient as the basic service value. For instance, the majority of the public might observe the adaptation decision before voting with probability $q(j)$ and otherwise not observe it at all, whereas the basic service value and the use of public funds (captured by the public surplus/deficit) are always politically salient (so adaptations are never performed when non-salient). In this case, G implements the adaptation with probability $q(j)$. If G's electoral concerns (see section 5) lead G to internalise the fraction g of the public value from the basic service and to internalise, *when politically salient*, the same fraction of the public value S from adaptation, then G's maximal expected gain from the adaptations that G finds attractive to implement is $gSq(j)$. A's gain from implementation of the adaptation is aS – independent of whether j succeeds in creating political salience – but since adaptations are only implemented when salience is high, A's expected gain is given by $aSq(j)$. In this special case, G and A's expected payoffs remain exactly proportional in the ratio $\frac{g}{a}$.^{26,27}

However, public pressure usually has an additional effect: it hurts bad politicians (as well

²⁶This example is readily extended. E.g. G is only sufficiently aware of public pressure and how to respond with probability $q(i)$, then the probability of an adaption in equilibrium is $q(i)q(j)$. Again G and A's expected gains remain proportional.

²⁷I believe this special case is representative, but it helps to see how it can go wrong. Suppose v only depends on j and A is able to choose j to make a valued adaptation just politically salient enough for G to implement it – i.e. A can choose j so that $v(j)$ is just above 0. In this case, the impact of M's indirect holdup would be trivial and the private/public choice would have no effect on j . However, in general, A's efforts to pressure G usually have stochastic success, as in the example just given. Furthermore, even in a deterministic setting, if A wants to pressure for many changes, G's benefit from inframarginal adaptations will generally be significantly positive when G's benefit for marginal adaptations is approximately zero. Finally, if v depends on G's efforts i as well as on j , then G only chooses $i > 0$, if there is a possibility of v significantly exceeding 0. So the holdup problem is sure to be present. The exact relationship between G and A's payoffs may vary, but since A only pushes for adaptations that A values and G only implements adaptations that G values, correlation in value of equilibrium adaptations will occur quite generally. What may change are the other effects of i and j .

as helping good politicians and increasing incentives). The simplest motivation for this claim is that an uninformed public cannot distinguish and therefore vote against bad politicians, so a public pressure campaign that informs the public lowers a bad politician's chances of success. Bad politicians in the above setting are those that never make valuable adaptations, so the claim suggests that public pressure j will reduce G's payoff in the contingency where G fails to make the adaptation. To capture this effect, I assume j lowers G's payoff by $y(j) \geq 0$ where $y'(j) > 0 \forall j \geq 0$. Since the public benefit from holding G more accountable, public welfare and A's own payoff do not include the subtracted term $-y(j)$; in fact, they may gain an additional benefit from j .

G and A's returns on j are no longer exactly proportional. This does not change the holdup results (which only depend on G and A's benefits from equilibrium adaptations and losses from public transfers to M), but it has a significant effect on G's preferences for privatisation relative to the public's preferences. If $v_j(i, j) - y'(j) > 0$ then G benefits from higher j in equilibrium and G is more likely to choose public provision than when j is fixed. On the other hand, if $v_j(i, j) - y'(j) < 0$, then raising α benefits G by improving the bilateral efficiency (from G and M's perspective) of i , but it hurts G by inducing a higher j from A. In this second case, the likelihood that G privatises increases beyond that suggested in proposition 4, because G seeks to reduce A's motivation to monitor and apply pressure. In order to demonstrate this idea, I substitute $y(j)$ by $Jy(j)$ and characterise the effect of varying J - a measure of the significance of this effect of j :

Proposition 5 *If A's pressure j has a direct negative effect on G's rents of size $Jy(j)$ - then increases in J make G more likely to privatise. Formally, $\frac{dI^G(J)}{dJ} < 0$.*

This proposition reflects how G may use privatisation as a way to escape accountability pressures (even when G's marginal cost l of public funds is relatively low).

The utilitarian measure of social welfare is given by

$$\frac{1}{g} (b_0 + v(i, j) - l(c_0 + r + e - w(e))) + r - i - j$$

Notice that the socially optimal levels of i and j satisfy $v_i(i, j) = v_j(i, j) = g$, so given that $g, a < 1$, public provision and, a fortiori, private provision always generate underinvestment in i and j . This implies that from a social perspective, there is always a clear tradeoff: privatisation raises e towards the first-best level but exacerbates the underinvestment in i and j . Since the public are not fully homogeneous, this measure of social welfare may not determine the outcome of a vote over the privatisation decision: G and M, and perhaps even A, may have negligible weight in the referendum. Assuming there is no difficulty in inducing

political participation (and hence no value for allowing G to extract rents from adaptations) and assuming the referendum outcome coincides with the preference of a median voter who is not a member of A, the referendum decision would maximise the above expression without the subtracted the effort costs $-(i + j)$. So the median voter (MV) would maximise

$$b_0 + v(i, j) - l(c_0 + r + e - w(e))$$

Increases in the importance l of cost efficiency again raise the relative benefit of privatisation, and there exists a cut-off value at which privatisation becomes optimal for the median voter.²⁸ It is intuitive that this cut-off \hat{l}^{MV} exceeds the cut-off \hat{l}^G that would be dictated when G controls the decision, because the advantage of public provision is in inducing more adaptation investments i and j and this advantage is greater for the median voter who, in contrast to G, neglects G's cost i (that mitigates the advantage of public provision from G's perspective). Notice that even if the median voter cared about i , say to ensure that good politicians are willing to participate, this voter would place a lower weight on i relative to v than does G, because $\frac{1}{g} > 1$ and usually by a large difference.

Proposition 6 *When the public decide whether to privatise service provision or to engage public providers, public provision is more likely than it is when the government controls this governance choice. In particular, the public value privatisation only when the importance of non-contractible service quality improvements is very low and the need to restrain public expenditure is very large, whereas incumbent governments opt for privatisation sooner (i.e. at a lower relative cost of public expenditure). Formally, $\hat{l}^{MV} > \hat{l}^G$.*

This result is sensitive to the assumption that the median voter does not internalise A's cost of effort j . In the opposite situation, for instance where the median voter is a member of A, the relative tendency to privatise is ambiguous: G neglects the increase in costs j from public provision, but G overweights the increase in costs i associated with public provision. One can imagine a setting in which G values a socially excessive level of public scrutiny and is therefore unwilling to privatise when private provision is socially optimal. For instance, public scrutiny may enhance G's incumbency advantage of being familiar to voters. However,

²⁸For simplicity, I treat the case where the referendum fixes the precise value of α in the case of opting for private provision. Notice that the concern is again to avoid underinvestment: the social first-best has $W'(e) = 1$ as for M and G's bilateral optimum; the social first-best demands a higher level of i ($v_i(i, j) = g > 1$) and it demands $v_j(i, j) = g$ which is also higher than the highest possible outcome (given that $a < 1$). If the median voter neglects the costs i and j , this raises (to infinity) the levels of i and j preferred by the median voter, making it even more obvious that the problem is to avoid underinvestment, and not overinvestment.

as noted above in the motivation for subtracting a factor $-J(j)$ from G , it is probably more common for governments to prefer to control their publicity rather than be actively monitored by voters. In this case, the general public (and even A) for whom the equilibrium incentives on j are always too low, will certainly have a stronger aversion to private provision than does G .

6 Contract length and inherited holdup

Ellman (2006) identifies a tradeoff between lengthening performance contracts to better motivate cost-cutting investments by the provider and shortening the contracts to reduce holdup of adaptation investments. Here, I extend this result by analysing the possibility that an incumbent government is replaced by an opposition party, before the incumbent's performance contract with a private provider has come to an end.

Analysis of the electoral competition reveals a particularly worrying effect of contracts that span across elections. Accountability is much enhanced when opposition parties can make specific policy commitments – see Austen-Smith and Banks (1989 and 2005). For instance, the public are more likely to oust an incumbent mayor for failing to fix a service problem (such as water quality falling below a recognised standard) when the opposition mayor has credibly committed to fix the problem. Unfortunately, if the service is managed by a private provider under a performance contract that spans the electoral cycle, this mayor suffers from a particularly pernicious holdup problem: if she wins after committing to solve the service problem, the service provider can hold her up over the entire value of her reputation for keeping promises. If voters anticipate the tax implications of this “inherited holdup”, such commitments are less attractive to voters as well as opposition parties. Privatisation therefore reduces the likelihood that opposition mayors make firm policy commitments to improve service quality. This concern is particularly significant in Public-Private Partnerships (PPPs) where the private service provider is also responsible for building the facilities to be used (see Hart (2003)), because the private party usually then needs a contract in excess of five years to properly exploit its non-contractible sunk cost investments.

[add formal model here] In conclusion, for settings where effective privatisation requires contracts that exceed the four or five year term limit on governments, my analysis suggests that privatisation is particularly damaging - at least if political accountability is important.

7 Discussion

7.1 Infeasible and undesirable accountability

Pragmatists may point out that all my arguments are invalid or inverted in situations where public pressure is infeasible or undesirable.²⁹ Acknowledging these problems helps to refine the theory’s empirical predictions and policy recommendations. First, in settings where public pressure possibilities are remote, the accountability benefits of public provision may be small and with partial market pricing to buttress private provision, privatisation may be preferred by many. Consistent with this, Jacobson and Tarr (1995) point out that in the U.S., water supply tends to be privatised when the recipient public are subdivided by political boundaries. However, since democratic accountability builds up over time, public provision’s tendency to induce public activism may have vital long-run benefits in settings where democratic pressure is initially limited.

Second, accountability can reduce welfare if the public are sufficiently myopic or manipulated by strong interest groups. For instance, economists have long argued that central bankers should be immunised against myopic electoral pressures and more recently, Maskin and Tirole (2004) have analysed the problem of “pandering” when public servants are elected (“politicians”) rather than appointed (like a judge). (They study information problems rather than moral hazard.³⁰) Bennedsen’s (2000) lobbying model and Milrom and Roberts’ (1988) influence cost model point to related concerns. In my initial model, there is no risk of A taking excessive efforts, because A’s goals are fully aligned with other members of the public. However, when A is replaced by a special interest lobby, G might divert attention onto selected public services that benefit those interests. This creates a risk that G and A’s efforts reduce social welfare. Privatisation might then be advantageous by reducing the risk of over-politicising the public service.³¹

²⁹In my theory, public provision maximises dynamic accountability, because the government can always force a public provider to adapt to changing demand: the government can replace or at least sideline an incumbent public manager who disobeys orders to adapt the service. Public management is much less effective when rigidly bureaucratic, but my theory suggests increasing bureaucratic accountability instead of privatising.

³⁰The “public choice” school argues that public management leads to a bureaucratic interest group that interferes with accountability, but privatised provision also generates interest groups. Accountability is harmful when politicised actors pander to a myopic public (see Maskin and Tirole (2005)), but unlike central banking, the fundamental problem in public service provision is contract incompleteness, not time inconsistency. Democratic accountability is needed, because services must be adapted to unanticipated changes in public demand.

³¹When i and j reduce the salience of other political decisions, there is a risk of creating an imbalance in accountability. On the other hand, enhancing e may not always be advantageous either. Privatisation could then be damaging by over-motivating e . For instance, if M’s investments in cost-cutting reduce G’s payoff from

7.2 Problems with public accountability - bureaucracy

It is possible for accountability to be lower under public provision if the mayor has difficulty monitoring and controlling public servants who are self-interested. However, these accountability problems could be avoided by forcing the relevant bureaucrats to be more responsive to politicians - what Adams and Hess (2000) call “de-Sir-Humphreying” the civil service. [To complete.] Furthermore, it is possible to make the heads of service providing agencies directly accountable to the public by having the public elect these heads. This step towards direct democracy has been studied by Besley and Coate (2003) among others.

7.3 Direct democracy

My analysis suggests unusual questions, such as what would happen if the public could vote directly to select a firm to provide services under a long-term contract, and perhaps also vote directly to oust the firm if activists manage to collect enough signatures of discontent? Given that the public benefits are dispersed across many people, monitoring possible providers and writing effective contracts tends to require specialised agents, such as the mayor or a service agency head, but asking this question can illuminate related design questions. The mayor is only useful if effectively monitored by the public. Is it easier to monitor the mayor than the service provider? Would application on private firms of the restrictions imposed on the mayor and other public servants to prevent expropriation render the private firms non-viable? (see Reiner (199X) for background discussion).

7.4 Access to information

The cost of getting information or verifiable evidence about service quality can be a major barrier to activist pressure. Since public organisations are often governed by laws that guarantee greater public access to information, privatisation may decrease accountability by simply restricting access to information. From a theoretical perspective, it is not obvious why transparency cannot be imposed as a condition for eligibility of private providers in public service contract competitions. One possibility is that the appropriate governance structure will take time to create. Certainly, private service providers work hard to argue that their legal obligations to their shareholders and their competitive pressures require that they maintain most of the standard privacy rights of private firms.³² Another possibility is that information disclo-

the basic service contract, there is a risk that long-term contracting leads to excessive investment by M – see HSV or Ellman (2005) who categorises this as a negative cross effect.

³²Is it plausible that without these rights, the mayor could hold them up or competing firms could expropriate their ideas? If so, the benefits of privatisation would be lost, but the need for firms to have such strong privacy

sure cannot be forced by contract. The mayor needs to monitor and pressure for transparency. If as argued above private provision shifts most responsibilities onto the provider, then the mayor may more often manage to excuse herself for not forcing information disclosure, say by pleading ignorance.

7.5 Asymmetric information between politicians and managers

7.6 Endogenising the government's preference function

In a companion paper, I analyse voting explicitly. Voters study the incumbent mayor's performance in order to predict their expected payoffs from reelecting this mayor. This permits foundations for the assumptions about the government's payoff function used in this paper. There, I consider two possibilities. One is to assume that voters are retrospective as in Ferejohn (1974). The other is to allow for forward-looking voters in a rational choice setting where G 's only goal is to take ego rents R from holding office. This approach allows me to analyse a "responsibility shifting" effect of privatisation.

7.7 Applications to selected public services

8 Conclusion

Critics have claimed that under privatisation, the government will wash its hands of service problems and quality will decline. This paper demonstrates that there may be a rigorous foundation to less extreme versions of this concern. The blunt version of this pessimistic view - maintaining that people will not hold the government responsible for policy outcomes because privatisation places control in the hands of a private company - is incomplete. The government's role (as holder of the purse-strings) remains critical under privatisation. In particular, the government can choose to which private company to delegate (just as it may control which civil servant is in charge of the relevant public agency under public provision) and even during a given provider's contractual term, the government can at least negotiate (offering to pay additional costs if need be).³³ A more refined version of the argument therefore had to explain *why*, under privatisation, the government might be held less responsible and/or *why* pressuring the government should be less effective.

protections is much disputed. It would also help to compare carefully the restrictions placed on public providers with those imposed on private but not-for-profit providers.

³³The government can also regulate to some degree. Regulation is necessarily limited, because the extreme case of unlimited regulation - where the government retains full residual control rights - is effectively public provision.

Privatisation of public services transfers control rights and contractual obligations to providers. I showed that, while improving cost reduction incentives, privatisation may decrease accountability and responsiveness of government to public concerns about service quality. I endogenised public mobilisations that can make government accountable for service quality. Political accountability induces the incumbent government to adapt services to meet public demand, but under privatisation, the provider can hold up the government by charging an inflated price for service adaptation. This holdup has an externality on the public, because the government pays using public funds. The holdup therefore reduces the public's incentive to mobilise to apply pressure on the government. The holdup also directly demotivates the government from exerting effort to evaluate public demands and their electoral implications. Finally, public mobilisation and government receptiveness are often complementary, making the two effects mutually reinforcing.

My theory can explain the evidence that privatisation sometimes lowers service quality, and the mechanism is very different to alternative explanations, which identify a “negative externality of incentives“ (on non-contractible quality) – for instance, HSV argue that privatisation reduces service quality by raising incentives to reduce cost. Those explanations cannot explain why consumers might, as in Kwoka's (2000) dataset, benefit from lower unit prices when a service is publicly managed. By contrast, my accountability mechanism can explain this: privatisation dissuades the public from mobilising to pressure the government to restrain consumer prices.

My analysis has a number of policy implications. In particular, if privatisation is pursued, then the creation of credible cost-measurement agencies (to allow cost-plus contracting), formation of relational contracts (while at odds with the anti-corruption strategy of requiring selection of the lowest bidder), adoption of dual suppliers, subsidisation of incumbent challengers and the use of shorter contracts (at least not spanning elections to escape the inherited holdup problem) offer partial but imperfect ways to reduce the accountability problem. Interestingly, recent suggestions to require private providers to exceed a minimal satisfaction rating in consumer surveys effectively represent a small step towards direct democracy where people's votes select the service provider. Further work could investigate the use of not-for-profit restrictions and direct election of the public servants controlling service provision.

In sum, the main contributions of this paper are to identify settings in which privatisation is particularly damaging to political accountability and to indicate how privatisation could be designed to limit the interference with accountability.

9 References

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10 Appendix

Proof of proposition 3

The first-order condition for e is unchanged so proposition 1 gives the result for e . The first-order conditions for i and j can be written as $Dv(i(\alpha), j(\alpha)) = \frac{2}{2-\alpha k} \begin{pmatrix} 1 \\ \frac{g}{a} \end{pmatrix}$. Differentiating this identity with respect to α ,

$$\begin{aligned}
 D^2v(i(\alpha), j(\alpha)) \begin{pmatrix} \frac{di}{d\alpha} \\ \frac{dj}{d\alpha} \end{pmatrix} &= \frac{2k}{(2-\alpha k)^2} \begin{pmatrix} 1 \\ \frac{g}{a} \end{pmatrix} \text{ so} \\
 \begin{pmatrix} \frac{di}{d\alpha} \\ \frac{dj}{d\alpha} \end{pmatrix} &= \frac{2k}{(2-\alpha k)^2} \frac{1}{\Delta} \begin{pmatrix} v_{jj}(i(\alpha), j(\alpha)) & -v_{ij}(i(\alpha), j(\alpha)) \\ -v_{ij}(i(\alpha), j(\alpha)) & v_{ii}(i(\alpha), j(\alpha)) \end{pmatrix} \begin{pmatrix} 1 \\ \frac{g}{a} \end{pmatrix} \\
 &= \frac{2k}{a(2-\alpha k)^2 \Delta} \begin{pmatrix} av_{jj}(i(\alpha), j(\alpha)) - gv_{ij}(i(\alpha), j(\alpha)) \\ gv_{ii}(i(\alpha), j(\alpha)) - av_{ij}(i(\alpha), j(\alpha)) \end{pmatrix}
 \end{aligned}$$

where $\Delta = v_{ii}(i(\alpha), j(\alpha))v_{jj}(i(\alpha), j(\alpha)) - (v_{ij}(i(\alpha), j(\alpha)))^2 > 0$ by assumption 2. Assumption 2 implies that both i and j decrease with α . Furthermore, the rate of decrease is increasing in v_{ij} as claimed.