

# Privatization in the United States

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*In the United States, the two principal modes of producing local government services are in-house provision by government employees and contracting out to private suppliers, also known as privatization. We examine empirically how U.S. counties choose the mode of providing services. The evidence indicates that state clean-government laws and state laws restricting county spending encourage privatization, whereas strong public unions discourage it. This points to the important roles played by political patronage and taxpayer resistance to government spending in the privatization decision.*

## 1. Introduction

■ In the United States, “privatization” mainly refers to government’s contracting out of local public services to private providers. A city or county government may contract with a private company to pick up garbage, to keep city parks clean, to manage its hospitals, to provide ambulance services, to run schools and airports, or even to provide police and fire protection. In the last 25 years, this method of providing public services has become more popular, although it is still less common than in-house provision of public services by city or county employees. Nonetheless, the growth of the private provision of public services has stimulated a lively discussion on the wisdom of contracting by the government.

The main argument for contracting is the accumulating evidence that it usually saves local governments money, and sometimes a lot of money, relative to public provision (Savas, 1982, 1987; National Commission for Employment Policy, 1988; International City Management Association, 1989; Donahue, 1989; and Kemp, 1991). The principal reasons for this are that private contractors use fewer people than governments do to provide the same service (Savas, 1987), pay 10% to 20% lower wages,

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and offer employee benefits that are sometimes orders of magnitude lower than those in government (Stevens, 1984). In Los Angeles County, one of the leaders in contracting out, the average service-cost reduction achieved from contracting has been around 36%, giving the county an estimated savings in 1988 of \$133 million (National Commission for Employment Policy, 1988).

This evidence raises an obvious question: Why does private contracting remain much less popular than in-house provision? Why aren't more of local government services privatized? In this article we try to examine the determinants of the decision to contract out or provide services in house.

To this end, we examine three types of potential determinants of the provision mode: efficiency (social goals), political patronage, and ideology. The efficiency view suggests that the government can sometimes deliver services that better address social goals if the provision is carried out by its own employees, because politicians and civil servants place more weight on these goals than do private contractors (Hart, Shleifer, and Vishny, 1996). Such attention to social goals may in some cases be efficient despite the higher cost of in-house provision. The political patronage view argues that politicians get political support from public employees when services are provided in house and so favor this mode unless pressured by taxpayers into lower-cost private contracting. The ideology view states that some voters simply hate big government and so support privatization.

In this article we empirically examine the merits of these three views of the determinants of privatization using a sample of public services for the 3,042 U.S. counties. We have little direct evidence on the efficiency view but try instead to find evidence bearing on the political patronage view and, to a lesser extent, on the ideology view. Specifically, we explore the tradeoff between the political benefits of in-house provision and the pressure to curb government spending.<sup>1</sup>

We examine a range of services that counties most commonly provide, including hospitals, landfills, libraries, nursing homes, public transit, sewerage, stadiums, fire protection, airports, water supply, electric utility, and gas utility, and look at two modes of provision of these services: contracting and in house. We do not look at the less common alternatives to public provision, such as volunteerism, franchising, or vouchers, which are also sometimes described as privatization (Savas, 1987). Since different services are provided by different levels of government, in most cases only a small subset of the counties provide a given service at all. We do not focus on the alternative of nonprovision, also known as service shedding, in this article.

We look at the determinants of the provision mode in 1987 and at how it changes from 1987 and 1992. To do that, we look at a variety of political and budgetary variables, focusing primarily on *state laws* that influence the political benefits and costs of in-house provision by counties. For example, some states require a merit system in county hiring, set local purchasing standards (such as requirement of competitive bidding), forbid political activity by public employees, etc. Under the political patronage model, these laws should reduce county politicians' discretion and hence reduce the political benefits obtainable from hiring government employees to provide services. This, in turn, should raise the likelihood of privatization.

Along similar lines, the main benefits of in-house provision accrue to public employees, who are also the greatest opponents of privatization. We use a variety of labor-market and unionization measures to gauge their role in determining the provision mode.

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<sup>1</sup> Kodrzycki (1994) looks at some of the demographic and labor-market determinants of the privatization decision. She does not examine the political issues that are the focus of our article.

Under the political patronage model, harder budget constraints of local governments raise the likelihood of privatization. We focus on the role of state laws, such as restrictions on bond issues, balanced budget amendments, and county restrictions on taxation. In addition, following Poterba (1994), we look at state fiscal crises as stimuli to privatization. These enable us to examine empirically how political patronage becomes constrained by pressures from taxpayers.

The next section briefly outlines the three theories of privatization and their predictions. Section 3 describes our dataset. Section 4 presents the basic evidence on the determinants of privatization and deals with some econometric problems. Section 5 concludes.

## 2. Theoretical issues

■ The three leading theories of the determinants of the privatization decision—efficiency (social goals), political patronage, and ideology—have different implications for the data. Our empirical analysis focuses on the effects of clean-government laws, hard budget constraint laws, and labor market conditions on privatization decisions. Accordingly, we evaluate the predictions of the three theories for the effects of these variables.

Some of the reasons for in-house provision of government services are purely normative. Private contractors might fail to pursue social goals that politicians want to attain (Sappington and Stiglitz, 1987; Shapiro and Willig, 1990). If these politicians cannot write a complete contract that specifies exactly what contractors are supposed to do in all circumstances, they need a public bureaucracy they can control better to make sure these goals are achieved (Hart, Shleifer, and Vishny, forthcoming).<sup>2</sup> For example, private providers of health care might turn down the sickest patients to avoid incurring the high cost of treating them if they can find a reason within the contract to do so. A publicly run hospital, by contrast, would be more likely to accept such patients, especially if a politician asks. Similarly, it may not be efficient for a government to contract out the imprisonment of dangerous criminals. The contractor might abuse the inmates, or reduce security in the prison to cut costs. The government may be unable to specify in the contract all the actions that must be taken to ensure the safety and the security of the prisoners, but if it asks for changes after the contract is signed, the contractor can refuse unless the terms are improved. More generally, private providers might cut quality if they don't care about repeat business and if quality levels are not fully specified in the contract.

These examples suggest that incomplete contracts can give the contractor room to cut costs and quality, as well as the power to hold up the government that wants to maintain quality. The problem of excessive contractor power, incidentally, becomes much more severe if the politicians writing the contract with the private supplier make a mistake (forget to include performance measures in the contract) or are simply bribed to write a contract that benefits the private supplier (AFSCME, 1984; Hart, Shleifer, and Vishny, forthcoming). This logic suggests some potential efficiency benefits of in-house provision of government services. Of course there may be efficiency benefits of private contracting as well, such as contractor specialization and investment in specific assets. In equilibrium, both delivery modes will be observed.

Under this simple efficiency model, the privatization decision should be determined only by the tradeoff between achieving social goals and providing services at the lowest possible cost. Clean-government laws should have no effect on the privatization decision. The efficiency model does, however, predict that hard budget constraint laws increase the likelihood of privatization. A poorer government is less likely to care about

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<sup>2</sup> While disciplining unionized public employees is notoriously difficult, this is not true of the high-level political appointees who typically run park districts or prisons. Such high-level employees are likely to cater to the wishes of the politicians.

the uncontractible aspects of prison security or the assurance of high-quality health care. It would also be more interested in the cost savings that contractors can obtain.

An alternative view of the privatization decision focuses on politics and patronage. Specifically, local politicians might choose to provide services in house because by doing so they derive political benefits, including the support of local public-sector unions, the opportunity to purchase supplies from political allies, the ability to hire relatives and campaign activists, the ability to use local government employees on political projects, etc. It is more difficult to derive all these benefits from private contractors, since the politician loses a large measure of control once the contract is signed. Following Stigler's (1971) theory of regulatory capture, Boycko, Shleifer, and Vishny (1996) and Shleifer and Vishny (1994) argue that the pursuit of political benefits is the principal reason for the pervasive political control over firms around the world.

The existing literature on contracting recognizes the pivotal role of political factors as well. In the United States, the main political factor favoring in-house provision is the clout of public employee unions, which have emerged as the strongest opponents of privatization<sup>3</sup> (see the readings in Kemp, 1991; AFSCME, 1984; and Kodrzycki, 1994). Politicians seek to win the support of these unions, which are the major beneficiaries of in-house provision, or at least avoid their active opposition. If politicians could use public provision of services to pursue their goals without a budget constraint, they would keep everything public.<sup>4</sup> The pressure for privatization must come from voter preference for lower taxes, which leads to lower public budgets and hence makes in-house provision less affordable. Indeed, the hardening budget constraints of local governments are often mentioned as the main stimulus for privatization (Savas, 1987; Kemp, 1991).

The political model has clear empirical implications. Clean-government laws reduce the political benefits of in-house provision, since they restrict politicians' freedom of action and hence make privatization more likely. Hard budget constraint laws also make it more difficult for politicians to spend public money to procure political benefits, and hence they too encourage privatization.

A different interpretation of the effect of clean-government laws is that they are "nuisance laws" that are difficult to comply with and therefore raise the cost of providing services in house. In this interpretation, even public-spirited politicians might find it attractive to contract out a service to avoid costly compliance with clean-government laws. On both political and "nuisance" interpretations, the degree of privatization differs from the efficient level under clean-government laws, in the first case because of the direct benefits of patronage, and in the second case because of the indirect compliance costs of fighting real or imaginary patronage. On the nuisance-law interpretation, however, there need be no real patronage, just deadweight costs from antipatronage laws. Unfortunately, we are unable to disentangle these two types of costs or their effects from our data.

The third theory stresses the importance of voter ideology. It is hard to imagine that voters have preferences on something as technical as the mode of delivery of government services, but they surely have views about the government more generally. It is possible, therefore, that privatization, clean-government, and budgetary-limit laws are simultaneously determined by the degree of voters' antigovernment sentiment.

To evaluate this view, we control for voting patterns (Republican versus Democrat) in different counties. We also look at correlations between voting patterns and the presence of various clean-government and budgetary-limit laws on the states' books, as well as the correlations among the laws themselves. This evidence would give us

<sup>3</sup> López-de-Silanes (forthcoming) describes the role of unions in opposing privatization in Mexico.

<sup>4</sup> Unless they prefer to collect bribes and political contributions from potential contractors to winning votes from the beneficiaries of public provision. In U.S. local elections, seeking voter support through patronage is probably more important.

an indication of whether a single factor called “antigovernment sentiment” can simultaneously explain voting patterns and restrictive state laws.

### 3. Data

■ **The mode of provision.** The analysis of this article is based on the 1987 and 1992 Censuses of Governments, which surveyed all 3,042 counties in the United States. The 1987 Census collected information about the following twelve services: airports, water supply, electric utility, gas supply, hospitals, landfills (dumps), libraries, nursing homes, public transit, sewage system, stadiums/convention centers, and fire protection. The key question was whether a county (a) provided and operated a service, (b) provided and contracted out a service, or (c) neither of these. Not every service is provided by every county, since many services are often provided by townships, municipalities, or even states. Moreover, there are several additional modes of providing services, including totally private provision (individuals pay private vendors), franchise agreements, grants/subsidies to private suppliers, vouchers to consumers who buy from private suppliers, volunteers, and self-help. In the 1987 Census of Governments, these alternative, but much less frequent, modes of paying for public services are grouped together with nonprovision. Our analysis therefore focuses only on those observations where the county provided a service either in house or through a private contract.

The 1992 Census of Governments asked about five additional services, namely refuse collection, ambulances, maintenance of streets and highways, industrial development, and resource recovery/recycling. Some of these services, such as refuse collection, are often provided by counties, and it is peculiar that they were not asked about in 1987. The 1992 Census also distinguished between contracting out when the county owned the capital and contracting out when the contractor did. The 1992 Census continued to group together nonprovision and provision through a method other than contract or in-house supply. As of this writing, the 1992 Census has not been completed. We have the data on the mode of provision in 1992, but not on many of the explanatory variables. For this reason, we focus on the 1987 cross-section, as well as on switchers from 1987 to 1992.

Table 1 presents some of the basic information on the mode of provision of the twelve services that were asked about in both 1987 and 1992. Some services are provided by a lot of counties, including libraries (42.9%), landfills (52.1%), and airports (27.5%). Others, such as gas and electric utilities, are hardly ever provided at a county level. Altogether, less than 20% of the possible county-service combinations are actually provided either in house or by contract, giving us a total of 7,185 county-service observations. In 1987, there are roughly three times as many cases of in-house provision as there are contracts. Libraries are hardly ever contracted out but utilities almost always are, whereas hospitals and airports are contracted out about half as often as they are managed in house. Overall, contracting out appears to be a significant but still relatively small mode of provision of public services.

The right panel of Table 1 presents the same information for 1992. The incidence of county provision of services increases by almost 15%, so there are a total of 8,243 county-service pairs in 1992, or 22.6% of the feasible universe. Landfills, libraries, fire protection, and airports remain the most popular. Interestingly, in-house provision is now less than twice (as opposed to three times in 1987) as common as contracting. The reason for that can be gleaned from Table 2, which examines the switching of observations from 1987 to 1992. Table 2 shows that relative to the available universe, there has been much less privatization than nationalization between 1987 and 1992. Contracted-out services had a higher likelihood of being brought in house (363 out of 1,697) than county government-provided services had of being contracted out (533 out of 5,488). There is no wave of privatization of county-provided services in this sample.

**TABLE 1** Service Provision by County Governments in the United States

Service	Counties with Service Provision in 1987			Counties with Service Provision in 1992		
	Provided by the County Government (% of counties)	Provided by a Private Contractor (% of counties)	Total (% of counties)	Provided by the County Government (% of counties)	Provided by a Private Contractor (% of counties)	Total (% of counties)
Hospitals	476 (15.7%)	245 (8.1%)	721 (23.7%)	391 (12.9%)	337 (11.1%)	728 (23.9%)
Landfills	1,261 (41.5%)	323 (10.6%)	1,584 (52.1%)	1,208 (39.7%)	415 (13.6%)	1,623 (53.4%)
Libraries	1,128 (37.1%)	177 (5.8%)	1,305 (42.9%)	1,133 (37.3%)	340 (11.2%)	1,473 (48.4%)
Nursing homes	489 (16.1%)	155 (5.1%)	644 (21.2%)	437 (14.4%)	214 (7.0%)	751 (24.4%)
Public transit	148 (4.9%)	87 (2.9%)	235 (7.7%)	187 (6.2%)	176 (5.8%)	363 (11.9%)
Sewerage	310 (10.2%)	69 (2.3%)	379 (12.5%)	321 (10.6%)	139 (4.6%)	460 (15.1%)
Stadiums	140 (4.6%)	38 (1.3%)	178 (5.9%)	151 (5.0%)	62 (2.0%)	213 (7.0%)
Fire protection	607 (20.0%)	173 (5.7%)	780 (25.6%)	640 (21.0%)	368 (12.1%)	1,008 (33.1%)
Airports	585 (19.2%)	250 (8.2%)	835 (27.5%)	574 (18.9%)	328 (10.8%)	902 (29.7%)
Water supply	312 (10.3%)	81 (2.7%)	393 (12.9%)	336 (11.1%)	178 (5.9%)	514 (16.9%)
Electric utility	18 (.6%)	50 (1.6%)	68 (2.2%)	6 (.2%)	149 (4.9%)	155 (5.1%)
Gas utility	14 (.5%)	49 (1.6%)	63 (2.1%)	17 (.6%)	136 (4.5%)	153 (5.0%)
Total number of services provid- ed (% of ser- vices)	5,488 (15.0%)	1,697 (4.7%)	7,185 (19.7%)	5,401 (14.8%)	2,842 (7.8%)	8,243 (22.6%)

Note: For the 12 services recorded by the Census of Governments this table shows the number of counties providing each service and the percentage of the total of 3,042 U.S. counties that these providers represent.

Table 2 also shows, however, that when counties started to provide services they did not provide before, they were 50% more likely to provide them through contract. Of these newly provided services, 1,150 were delivered by the county government and 1,662 were delivered by private contractors. This is especially noteworthy because overall contracting remains relatively less common than in-house provision. The much higher incidence of private contracting in the provision of new county services accounts for the greater overall prevalence of contracting in 1992 than in 1987. These results are understandable if public-sector unions are effective opponents of privatization but are not organized enough to stop private provision of services not currently provided by public employees. Later in the article we shall return to the question of changes in provision mode between 1987 and 1992, but first we focus on the 1987 cross-section.

TABLE 2 Provision Across Time

Service Provision in 1987 by	County government	Service Provision in 1992 by		
		Private contractor	None of the above	Total
County government	3,888 (10.7%)	533 (1.5%)	1,067 (2.9%)	5,488 (15.0%)
Private contractor	363 (1.0%)	647 (1.8%)	687 (1.9%)	1,697 (4.7%)
None of the above	1,150 (3.2%)	1,662 (4.6%)	26,507 (72.6%)	29,319 (80.3%)
Total	5,401 (14.8%)	2,842 (7.8%)	28,261 (77.4%)	36,504 (100%)

□ **Clean government.** Our principal hypothesis is that the more difficult it is to pursue political ends through in-house provision of public services, the more likely local politicians are to privatize these services. To measure political benefits of in-house provision, we rely primarily on variation in state clean-government laws. Our source of data on these variables is a compilation of state laws governing local government structure and administration from the U.S. Advisory Commission on Intergovernmental Relations (USACIR, 1993). Since local governments in the United States are legally created by the states, they are established in accordance with state constitutions and statutes. All states therefore decide how much authority can be exercised by each type of government. We use information collected by the USACIR for 1990 for all U.S. states on three clean-government measures. These are all the measures from USACIR that we thought could be reasonably interpreted as conducive to privatization.

First, we use a dummy for whether state law requires counties to use a merit system in hiring. Presumably, a merit system makes it more difficult for politicians to hire relatives, friends, and campaign activists for government posts, and therefore makes in-house provision less attractive. Shleifer and Vishny (1994) conjecture in the context of West European privatizations that an independent civil service might encourage politicians to divest state firms, since they are less able to control them and staff them with political allies.

Second, we use a dummy for whether state law sets local purchasing standards for counties. Generally, a local purchasing standard requires counties to use competitive bidding on all purchases over a specified amount, or on all purchases of a designated type. As a result, a local purchasing standard makes it less attractive to use in-house providers of services to favor politically desirable suppliers, and therefore promotes privatization. But such a standard might also sometimes discourage corrupt contracting with suppliers who are allies of politicians, which would favor in-house provision over privatization. The interpretation of this variable is ambiguous.

Third, we use a dummy for whether the state law forbids political activity by government employees. If it does, then hiring government employees becomes less attractive, which would favor privatization.

□ **Labor-market conditions.** We argued that patronage is a key benefit of in-house provision of public services. But patronage is also an important cost of in-house provision, since hiring potential political supporters at high wages is expensive, and irritating to the taxpayers. As a result, the predictions of the effects of labor-market conditions on privatization are sometimes ambiguous.

First, we use a dummy for whether state law allows county employees to strike. On the one hand, if public employees can strike, then they can presumably bargain for higher wages, which makes them more expensive to employ and hence makes privatization more attractive. On the other hand, holding relative wages of public employees constant, as we do in the regression, the ability to strike enables public employees to resist privatization through strikes, which makes privatization more costly. In fact, one of the consistent findings of the earlier literature on local government contracting is that strong public-sector unions often succeed in blocking privatization.<sup>5</sup> Since we are holding wages constant, we expect that the ability to strike is a deterrent to contracting out.

Second, we consider each county's civilian unemployment rate in 1986 (from the Bureau of the Census, County Statistics file 3). Since public hiring is often viewed as a politically desirable solution to unemployment problems, a higher unemployment rate should make privatization less attractive.

Third, we consider the public-employee wage premium, defined as the ratio of the average annual pay for a full-time-equivalent county employee to the average annual pay for a full-time-equivalent private-sector employee in that county (from 1987 Census of Governments, Employment Statistics, and 1987 County Business Patterns, respectively). The mean of this ratio in our sample is 1.15. Many observers believe that the greatest difference in public and private pay is not in wages but in benefits, and the number we compute ignores benefits. Whether high relative pay should encourage or discourage privatization is ambiguous. A higher public-wage premium should foster stronger support for politicians who deliver it and hence discourage privatization, but it also raises the cost of in-house provision relative to contracting out. We control for the wage premium in the regressions without a strong theoretical prior about its effect.

Fourth, we consider the fraction of county government workers in unions (from 1987 Census of Governments, Employment Statistics). This variable can be interpreted as we did the state law allowing strikes. A higher union participation by county employees might encourage privatization because it raises costs. However, holding wages constant, higher union participation probably deters privatization by raising the effectiveness of public employees in resisting contracting out.

Finally, we look at the number of county government employees per 1,000 people (from 1987 Census of Governments, Employment Statistics). In a cross-section, a higher density of public employment is almost by definition negatively associated with privatization, and therefore we do not include this variable in the cross-sectional analysis. This variable is, however, useful for looking at switchers between 1987 and 1992. A higher incidence of public employment may encourage privatization as a way to save costs but may also make opposition to privatization more powerful. The sign on this variable must therefore be determined empirically.

□ **Budget constraints.** We have interpreted the state laws and the labor-market variables largely in terms of the political benefits of in-house provision. But politicians cannot spend on such benefits, or even on socially desirable activities, without limit, because their budgets are limited. The harder the budget constraints politicians face, the more likely they should be to privatize government services. As before, our preferred measures of hard budget constraints are state laws limiting a county's ability to tax and to spend. These measures are preferred to county cash-flow measures, which are endogenous. For example, if we find that large budget deficits are associated with more in-house provision, it could be that counties providing services in-house spend

<sup>5</sup> For Mexico, López-de-Silanes (forthcoming) empirically shows that public-union strikes not only deter bidders from acquiring private enterprises but also lead to substantially lower privatization prices.



more and therefore run larger deficits, or it could be that the ability to run a deficit deters privatization. To have a clearer interpretation, we focus mainly on state laws.

We have five such state law variables, all, as before, derived from USACIR (1993). The first is a dummy equal to one if the state does not allow its counties to engage in short-term borrowing. Short-term loans are defined as loans of limited duration that are taken out in anticipation of specific revenues soon to be collected. We conjecture that a prohibition on short-term borrowing hardens the budget constraint and hence fosters privatization. The second is a dummy equal to one if the state imposes debt limits on counties, which can be expressed as a percentage of assessed property value, or in absolute terms, or in some other way. In most states, these debt limits cover only obligations with maturities greater than one year. Hence these restrictions are complementary to the restrictions on short-term borrowing. Once again, we conjecture that such limits harden budget constraints and hence promote privatization. The third hard budget constraint variable is a dummy equal to one if state law mandates a balanced budget for counties. Counties typically have two budgets, the operating budget and the capital budget. Balanced-budget restrictions apply to the operating budget only, which includes items like educational costs and social programs. The capital budget covers items such as highway construction and other infrastructure costs. Much of the long-term debt incurred by counties is associated with the capital budget. Restrictions on long-term debt would have their greatest impact on the capital budget, although counties have some ability to shift excess funds from one budget to the other.

We include all of these variables separately because it does not appear that one restriction subsumes the others. For example, the requirement of a balanced operating budget does not imply that the county cannot engage in large-scale borrowing in the capital budget. Similarly, even if a county is at its debt limit for long-term debt, it is not precluded from running a deficit in its operating budget and financing it by rolling over short-term debt. The ability to engage in short-term borrowing also gives a county added financial flexibility even if it were restricted to a balanced budget and had its long-term debt issues limited.

The fourth variable is a dummy equal to one if state law does not allow state takeover of county finances. The possibility of a bailout by the state should soften the budget constraint and hence make privatization less likely. The fifth variable we use is a dummy equal to one if the state assesses county property taxes. Such limits on discretionary taxation by county politicians should harden budget constraints and thus encourage privatization.

Our last budget constraint variable is a state-level cash-flow variable motivated in part by Poterba's (1994) analysis of state fiscal crises. All states have so-called rainy-day funds, which are reserves that can be made available for unforeseen circumstances. We use the amount of money in each state's rainy day fund at the end of 1987 relative to each state's total government expenditure in that year. Presumably, the less money there is in such an emergency fund, the less financially secure the counties in the state are, and hence privatization is more likely. This variable is of particular interest in addressing the question of whether fiscal emergencies trigger privatization, and hence it is most useful in the analysis of switchers between 1987 and 1992.

□ **Ideology.** To capture ideological attitudes about government, we consider the fraction of votes in the county for a Republican gubernatorial candidate in the election closest to 1987 (Inter-University Consortium for Political and Social Research, General Election Data for the United States, 1970–1988). When more people vote Republican, the local government should be more likely to privatize. To best measure ideological orientation, we have considered various alternatives. For example, because the result of any one election might be noisy, we have looked at average results over the two

past elections. In addition, we have looked at county-level voting in congressional, senatorial, and presidential elections as alternative measures of the electorate's ideological orientation. The gubernatorial vote in the last election proves to be the single best measure in terms of predicting the probability of private contracting.

□ **Control variables.** To minimize the likelihood that our results capture some unobserved state or county heterogeneity, we control for several county and state characteristics. These include each county's 1987 population, population per square mile of land, county per-capita income, county per-capita bank deposits, and fraction of county population above 25 years old with at least 12 years of education (all from the Bureau of the Census, County Statistics file 4, and Census of Population and Housing). These are just the standard demographic, income, and wealth measures. We also add a dummy equal to one if a county belongs to a regional organization, which is generally a collaboration between local governments used to jointly provide or purchase public services (1987 Census of Governments, Government Organization file). At the county level, we also control for the fraction of county population living in municipalities in 1987, since municipalities, like counties, often provide public services. In addition, we include several state controls, such as state resident population in 1987, per-capita bank deposits in the state in 1987, personal per-capita income in the state in 1987, state unemployment in 1986, and fraction of the state's population over 25 years old with at least 12 years of education (County Business Patterns and the Bureau of the Census, County Statistics file 4, Census of Population and Housing). Since we use state-level variation for many of our explanatory variables, it is essential to include these state controls in addition to county controls.

#### 4. Results

■ The analysis in this section is divided into four parts. First, we present the basic cross-sectional results on the determinants of the provision mode using conditional means of the dependent variables, a probit, and a linear regression. Second, we deal with two statistical issues that the basic results do not deal with: sample selection bias and potential correlation among the residuals. Third, we interpret the evidence and, in particular, try to distinguish the political-patronage model from the ideology model. Fourth, we present the results on the switchers in provision mode between 1987 and 1992.

□ **Basic results.** Table 3 presents conditional means of the privatization variables as a function of each of the main determinants of privatization discussed above. The unit of observation is county-service, so for some counties we have several observations. We do not include observations where the county does not provide a service or provides it via a third way. In this sample, 23.6% of county-services are provided through contract, and 76.4% in house.

The results of the 1987 cross-section are suggestive. Merit-system laws, purchasing-standards laws, and prohibitions on political activity by public employees all encourage privatization. Among the labor-market variables, low unionization and a prohibition on public-employee strikes encourage privatization. Softening county budget constraints, through allowance of county short-term borrowing, possible state take-over of finances, and the lack of a debt-limit law, discourage privatization. However, a balanced-budget law discourages privatization as well.

The results on switching from in-house provision to contracting between 1987 and 1992 generally have the same sign as the results on the 1987 cross-section, although the magnitude of the effects is smaller and the statistical significance lower. The fraction

of county voters who supported a Republican gubernatorial candidate in the previous election is the one variable that is statistically significant in the switchers equation but not in the 1987 cross-section equation.<sup>6</sup> This variable represents a recent event in each county, and hence it is not surprising that it predicts switchers to privatization rather than the level of privatization. The results on switching from private to in-house provision between 1987 and 1992 are also generally in the same direction as the cross-sectional results, but weaker. Contrary to what we would predict, more money in the rainy-day fund reduces the likelihood of nationalization.

There is a good reason why in general we have stronger results for the 1987 cross-section than for the switchers, especially using state law variables. Our evidence indicates that by 1987, the mode of provision of county services has been more or less established; the system is in the steady state. Newly added services are provided disproportionately privately, but there is about as much shifting from in-house to private provision as backward. Without a trend toward privatization, we can estimate the determinants of the steady-state modes of provision more precisely than the determinants of switching, which are the faster-moving variables. For this reason, most of our discussion focuses on the 1987 cross-section.

Table 4 presents the slope estimates from a probit and an ordinary least squares (OLS) regression that includes all the relevant variables and controls for state and county characteristics as well as service and region effects. We pool all our county-service observations, a total of 6,997 for 2,453 counties. The OLS and probit results are extremely similar, so we shall discuss the OLS results and mention probits only when there are material differences.

Table 4 confirms the significance of state clean-government laws in promoting privatization. Counties that are required by their states to use a merit system have a 2.7 percentage point higher probability of privatizing their services. Counties that are required to have purchasing standards have an 11 percentage point higher likelihood of contracting out. Counties in states that forbid government employees to engage in political activity have a 6.2 percentage point higher probability of privatization. All these effects are statistically significant, except for the merit-system law, which is marginally significant in the OLS regression and insignificant in the probit. This evidence is consistent with the theory that the political benefits of public control are an important obstacle to privatization.

Table 4 also confirms our preliminary results on the labor-market variables. Counties in states that allow strikes by government employees have an 11 percentage point lower probability of privatization. The 1986 unemployment rate has a statistically significant (but small) effect on privatization. A 1 percentage point rise in the unemployment rate in a county reduces the probability of privatization of a service in that county by .05 percentage points. The wage premium comes out with a statistically significant and positive (though small) coefficient. A 10 percentage point increase in the wage premium (say from 1.1 to 1.2) raises the likelihood of privatization by .3 of a percentage point. Finally, the fraction of county employees represented by bargaining units comes out highly significant and negative, indicating that strong unions deter privatization. As this fraction rises by .1, the probability of privatization falls by .9 percentage points. Together with the effect of the strikes variable above, the negative union effect on privatization is a clear finding of our empirical work.

We now turn to the budget-constraint variables. A state law prohibiting counties from issuing short-term debt raises the probability of privatization by 4.9 percentage points. A state law imposing debt limits on counties raises that probability by 6.6

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<sup>6</sup> The other ideology variables based on congressional, senatorial, and presidential voting, however, were significant in neither the privatization-switchers regression nor the nationalization-switchers regression.

**TABLE 3** Probability of Service Provision

		Service Provision by Private Contractor in 1987		Switched to Private Contractor Provision in 1992 (Privatization)		Switched to County Government Provision in 1992 (Nationalization)	
		Mean	Difference in Means ( <i>t</i> -statistic)	Mean	Difference in Means ( <i>t</i> -statistic)	Mean	Difference in Means ( <i>t</i> -statistic)
Unrestricted mean		.2362		.1206		.3594	
<b>A. Clean-government variables</b>							
State law requires merit system for the county	Yes	.2655	.0431*	.1240	.0049	.2820	-.1248*
	No	.2224	(3.93)	.1191	(.44)	.4067	(-4.12)
State law sets local purchasing standards for the county	Yes	.2507	.0426*	.1254	.0131	.3413	-.0607***
	No	.2081	(4.12)	.1123	(1.31)	.4020	(-1.81)
State law forbids political activity for government employees	Yes	.2451	.0177***	.1145	-.0118	.3445	-.0318
	No	.2507	(1.77)	.1263	(-1.21)	.3763	(-1.05)
<b>B. Labor-market laws and conditions</b>							
State law does not allow county employees to strike	Yes	.2387	.0348***	.1236	.0388*	.3637	.0649
	No	.2039	(1.87)	.0848	(2.43)	.2985	(1.12)
Fraction of county government workers in unions (%)	≥9.5%	.2001	-.0485*	.1065	-.0189***	.4319	.0915*
	<9.5%	.2486	(-4.34)	.1254	(-1.76)	.3404	(2.41)
Number of county government employees per 1,000 inhabitants	≥10.2	—	—	.1209	.0007	.3954	.0633**
	<10.2	—	—	.1202	(.08)	.3322	(2.07)
Unemployment rate in 1986 (%)	≥8.7%	.2456	.0166***	.1295	.0154	.3827	.0422
	<8.7%	.2290	(1.63)	.1141	(1.54)	.3405	(1.39)
Wage premium (1987 average pay of county over private-sector employee)	≥1.154	.2404	.0068	.1176	-.0048	.3533	-.0127
	<1.154	.2336	(.68)	.1224	(-.49)	.3660	(-.42)
<b>C. Budget constraints</b>							
State law does not allow counties to issue short-term debt	Yes	.2770	.0581*	.1623	.0569*	.3040	-.0850*
	No	.2189	(5.15)	.1054	(4.73)	.3890	(-2.74)
State law imposes debt limits on counties	Yes	.2418	.0272*	.1237	.0148	.3395	-.1039*
	No	.2146	(2.24)	.1088	(1.28)	.4432	(-2.63)
State law mandates balanced budget for counties	Yes	.2071	-.0427*	.1101	-.0161	.3660	.0095
	No	.2498	(-4.07)	.1262	(-1.59)	.3565	(.29)
State law does not allow the state to take over county finances	Yes	.2428	.0800*	.1248	.0442*	.3568	-.0376
	No	.1628	(5.00)	.0806	(3.10)	.3944	(-.62)
State assesses county property taxes	Yes	.2212	-.0168	.1090	-.0130	.3246	-.0392
	No	.2380	(-1.06)	.1220	(-.86)	.3638	(-.84)
State's "rainy-day fund" as a % of state's total expenditures in 1987	≥3.33%	.2351	-.0022	.1153	-.0110	.3216	-.0768*
	<3.33%	.2373	(-.22)	.1263	(-1.12)	.3984	(-2.55)

TABLE 3 *Continued*

		Service Provision by Private Contractor in 1987		Switched to Private Contractor Provision in 1992 (Privatization)		Switched to County Government Provision in 1992 (Nationalization)	
		Mean	Difference in Means ( <i>t</i> -statistic)	Mean	Difference in Means ( <i>t</i> -statistic)	Mean	Difference in Means ( <i>t</i> -statistic)
<b>D. Ideology</b>							
Fraction of county votes for	$\geq 46.8\%$	.2403	.0081	.1350	.0286*	.3558	-.0076
Republican governor (%)	$< 46.8\%$	.2322	(.81)	.1064	(2.92)	.3634	(-.80)

\* Significant at 1%.

\*\* Significant at 5%.

\*\*\* Significant at 10%.

percentage points. The effect of the balanced-budget mandate is still statistically significant and of the wrong sign, implying that counties facing this restriction have a 6 percentage point lower probability of privatization. The impossibility of state takeover of county finances raises the probability of privatization by a somewhat implausible 9 percentage points. The state's power to assess county property taxes—our sole tax variable—is insignificant. Finally, the estimated coefficient on the rainy-day-fund variable is statistically significant and negative. This is consistent with the prediction that softer budget constraints, which perhaps are associated with larger fund balances, reduce the likelihood of privatization. By and large, the evidence here suggests that harder budget constraints on counties are associated with a higher likelihood of contracting out public services.

The fraction of county votes for a Republican gubernatorial candidate is statistically significant, but the effect is small. As that fraction rises by 10 percentage points (a large swing), the probability that a service in that county is privatized rises by approximately 1 percentage point. The relatively small size of the effect may mean that elections primarily affect switchers. Alternatively, ideology may be an unimportant determinant of privatization.

□ **Statistical issues.** One methodological issue concerns our estimated standard errors. If there is a county-specific taste for privatization, driven for example by a county-specific antigovernment sentiment, then error terms across county-service observations will be correlated and our estimated standard errors will be too low. The same reasoning applies at the state level, where all the observations in a state may be reflecting a common state-specific political sentiment. Below we consider some alternative specifications that try to take account of the possible correlation of error terms across observations.

First, instead of using multiple service observations for each county, we look at individual services and run the regressions across counties. Table 5 presents the results of probits for the five most common county-provided services in our sample: airports (820 observations), landfills (1,544 observations), hospitals (710 observations), nursing homes (629 observations), and libraries (1,272 observations). For individual services, the coefficients are generally of the same sign as for the pooled sample, although the statistical significance of some of the results is lower. The results that remain most pronounced after disaggregation are on the clean-government laws (state merit system, state purchasing standards, and state prohibition of political activities all encourage privatization). Among the labor-market variables, a prohibition on strikes still raises the odds of private provision.

TABLE 4 Cross-section of Service Provision in 1987

Dependent Variable: Service Provision by Private Contractor in 1987	Probit	Linear	Random Effects (County Effects)	Random Effects (County and State Effects)
<b>A. Clean-government variables</b>				
State law requires merit system for the county	.0231 (.0158)	.0273*** (.0149)	.0231 (.0196)	.0283 (.0394)
State law sets purchasing stan- dards for the county	.0987* (.0186)	.1067* (.0193)	.0975* (.0240)	.0702 (.0514)
State law forbids political activity for government employees	.0544* (.0162)	.0622* (.0155)	.0490** (.0199)	.0450*** (.0261)
<b>B. Labor-market laws and conditions</b>				
State law does not allow county employees to strike	.0905* (.0251)	.1067* (.0289)	.0929* (.0360)	.0951*** (.0529)
Fraction of county employees in unions	-.0944* (.0323)	-.0858* (.0286)	-.0978** (.0403)	-.1207* (.0447)
Unemployment rate in the county	-.0458* (.0173)	-.0458* (.0178)	-.0278 (.0239)	-.0056 (.0259)
Wage premium of county employ- ees over private-sector employ- ees	.0277*** (.0148)	.0291** (.0143)	.0114 (.0194)	.0113 (.0207)
<b>C. Budget constraints</b>				
State law does not allow counties to issue short-term debt	.0425** (.0211)	.0494** (.0208)	.0277 (.0259)	.0267 (.0552)
State law imposes debt limits on counties	.0588** (.0246)	.0664** (.0267)	.0557*** (.0322)	.0502*** (.0260)
State law mandates balanced bud- get for counties	-.0617* (.0159)	-.0600* (.0162)	-.0491** (.0215)	-.0428 (.0525)
State law does not allow the state to take over county finances	.0904* (.0275)	.0891* (.0280)	.0932** (.0395)	.0743 (.0544)
State assesses county property taxes	.0097 (.0250)	-.0101 (.0230)	.0294 (.0317)	.0561 (.0824)
State's "rainy-day fund" as a % of state's total expenditures in 1987	-.0072* (.0013)	-.0075* (.0013)	-.0051* (.0016)	-.0056*** (.0032)
<b>D. Ideology</b>				
Fraction of county votes for Re- publican governor	.0917*** (.0482)	.0904** (.0456)	.0665 (.0601)	.0762 (.0771)
<b>E. Controls</b>				
County belongs to a regional or- ganization	.0139 (.0120)	.0134 (.0117)	-.0142 (.0153)	.0235 (.0158)
Fraction of county population liv- ing in municipalities	.1050* (.0325)	.1002* (.0280)	.1043* (.0404)	.1000** (.0443)
Fraction of county population above 25 years old with at least 12 years of education	.1050* (.0325)	.1002* (.0280)	.2934* (.1181)	.3576* (.1281)
Additional county and state con- trols	Yes	Yes	Yes	Yes
Service and region dummies	Yes	Yes	Yes	Yes
Number of observations	6,997	6,997	6,997	6,997

TABLE 4 *Continued*

Dependent Variable: Service Provision by Private Contractor in 1987	Probit	Linear	Random Effects (County Effects)	Random Effects (County and State Effects)
<i>F</i> statistic on overall significance (Prob > $\chi^2$ )			.0000	.1539
Adjusted (or pseudo) $R^2$ (overall $R^2$ for random effects)	.0816	.0842	.0856	.0808

Probit, OLS and random effects regressions of the cross-section of the 12 different services of the 3,042 counties in the United States. For the probit, derivatives are calculated based on the average of the scale factor in the case of the continuous regressors, and as the average of the difference in the cumulative normal distributions evaluated with and without the dummy variable in the case of binomial regressors. For the OLS, the table reports coefficients and their White-corrected standard errors. The random-effects regressions use the GLS estimator and report standard errors.

\* Significant at 1%.

\*\* Significant at 5%.

\*\*\* Significant at 10%.

Hard-budget-constraints results are weaker statistically, though the signs of coefficients are generally the same as in the pooled regression. The possibility of issuing short-term debt generally has a negative effect, whereas debt limits generally have a positive effect. The balanced-budget coefficients flip around. The effect of the possibility of state takeover of finances on privatization is negative in three out of five cases, and statistically significant in all of those, not in the other two. The effect of the state's having power to assess county taxes is, in general, positive. Finally, the effect of higher balances in the rainy-day fund is very consistently negative and significant, supporting the results of the pooled regression. The effect of the ideology variable continues to be positive, though not significant for any individual service.

In addition to service-specific regressions, we estimate two random-effects models: one using county-specific errors, and one allowing for state- and county-specific errors. These specifications take explicit account of the correlated errors among our observations and produce consistent standard errors. Results are presented in the two rightmost columns of Table 4. We also present the results of Breusch-Pagan tests, which test the null hypothesis that the variance of the county (state) error terms is equal to zero. For example, if the Breusch-Pagan test for county errors rejects, we need to focus on a random-effects model including a county error term in addition to a county-service error.

Random effects results allowing for county-specific effects are consistent with the OLS results but somewhat weaker. The effects of clean-government laws are 10–20% smaller, with two of the three measures remaining significant at the 5% level or higher. The merit-system variable goes from being significant at the 10% level to being insignificantly different from zero. The coefficients on both the strikes variable and the unionization variable are of comparable magnitude and remain significant. Of the hard-budget-constraint variables that are significant in the OLS regressions, all but the short-term-debt variable remain significant at the 10% level or higher. The coefficient on Republican votes is diminished by 25% and is no longer statistically significant. The Breusch-Pagan test rejects the null hypothesis that the county error variance is zero at a very high level of significance, indicating that the random-effects specification with county errors is more appropriate than the OLS.

Random-effects results allowing for both state- and county-specific effects are weaker than the county results. Among the clean-government variables, only the political-activities variable is significant at the 10% level. The strikes and unionization variables remain significant, as do the debt-limits and rainy-day-fund variables among

TABLE 5 Cross-section of Service Provision in 1987 for Some Individual Services

Dependent Variable: Service Provision by Private Contractor in 1987	Airports	Landfills	Libraries	Nursing Homes	Hospitals
<b>A. Clean-government variables</b>					
State law requires merit system for the county	.1187** (.0536)	.0119 (.0317)	.0122 (.0275)	.0748 (.0519)	-.0686 (.0528)
State law sets purchasing standards for the county	.1369** (.0602)	.1887* (.0352)	.0188 (.0325)	.0590 (.0604)	-.1557** (.0735)
State law forbids political activity for government employees	.0313 (.0577)	.0825* (.0314)	.0445*** (.0260)	.0543 (.0524)	.0743 (.0607)
<b>B. Labor-market laws and conditions</b>					
State law does not allow county employees to strike	.1635** (.0732)	.0165 (.0502)	.0959* (.0346)	.0830 (.0756)	-.0544 (.1034)
Fraction of county employees in unions	-.1251 (.1009)	-.1608* (.0671)	-.0135 (.0561)	-.2433* (.0974)	-.1519 (.1364)
Unemployment rate in the county	-.0959*** (.0580)	-.0113 (.0368)	-.0651*** (.0340)	-.0366 (.0638)	-.0698 (.0646)
Wage premium of county employees over private-sector employees	-.0244 (.0437)	.0362 (.0306)	-.0167 (.0268)	.1032** (.0486)	.0167 (.0539)
<b>C. Budget constraints</b>					
State law does not allow counties to issue short-term debt	.0479 (.0684)	-.0013 (.0401)	.0350 (.0371)	.0719 (.0692)	.2248* (.0749)
State law imposes debt limits on counties	.0425 (.0973)	.1142* (.0462)	.0664*** (.0390)	.0529 (.0737)	-.0865 (.0920)
State law mandates balanced budget for counties	-.0620 (.0533)	-.0481 (.0321)	-.0260 (.0299)	.0302 (.0554)	.2123* (.0643)
State law does not allow the state to take over county finance	.1105 (.0859)	.1142* (.0462)	-.0068 (.0536)	.1361*** (.0781)	-.2960** (.1389)
State assesses county property taxes	.2487* (.0894)	.0454 (.0563)	-.0234 (.0368)	.1577 (.1186)	.0082 (.1016)
State's "rainy-day fund" as a % of state's total expenditures in 1987	-.0065*** (.0039)	-.0069* (.0026)	-.0059* (.0019)	-.0035 (.0040)	-.0091** (.0038)
<b>D. Ideology</b>					
Fraction of county votes for Republican governor	.1193 (.1488)	.1069 (.0988)	.0659 (.0823)	.2033 (.1504)	.0251 (.1757)
<b>E. Controls</b>					
County belongs to a regional organization	-.0018 (.0742)	.0269 (.0233)	.0125 (.0205)	.0012 (.0342)	-.0480 (.0415)
Fraction of county population living in municipalities	-.0742 (.1008)	.0404 (.0672)	.1131*** (.0609)	-.1068 (.1069)	.1822 (.1231)
Additional county and state controls	Yes	Yes	Yes	Yes	Yes
Region dummies	Yes	Yes	Yes	Yes	Yes
Number of observations	820	1,544	1,272	629	710
Log-likelihood	-456	-707	-456	-274	-414
Pseudo R <sup>2</sup>	.0895	.1035	.0840	.2147	.0912

Probit regressions of the cross-section of the 12 different services of the 3,042 counties in the United States. The table reports derivatives and their standard errors. Derivatives are calculated as in previous tables.

\* Significant at 1%.

\*\* Significant at 5%.

\*\*\* Significant at 10%.



the hard-budget-constraint variables. Although these results are statistically weaker than either our initial results or the random-effects results with county-specific errors, the signs and magnitudes of most coefficients are comparable. Moreover, the Breusch-Pagan test does not provide strong support for the random-effects model with state-level errors. The  $p$ -value associated with the Breusch-Pagan test is .744, so we cannot reject the null hypothesis that the state-level error variance is zero at any conventional level of significance.

A second methodological concern is a sample-selection bias resulting from non-provision of many services. After all, around 20% of the counties in our sample did not provide any of the twelve services at all, and more generally, close to 80% of the possible county services that can be provided are not. Nonprovision can result either because the population in a given area does not get the service from any level of government or because it gets the service from another level of government, such as the township, municipality, or state. We cannot easily ascertain from our data what the situation is; nor do we have a good theoretical prediction of what the selection bias is. Nonetheless, we use a couple of strategies to deal with it.

The simplest strategy is to include in the Table 4 regressions a measure of intensity of service provision in each state. We define this measure as the ratio of all county services actually provided in a given state to the total possible number of county services that can be provided by that state (i.e., 12 times the number of counties in the state). This variable is not significant in the regressions and does not materially affect any key coefficients.

Another strategy is to include nonprovision as a third possible outcome and estimate a multinomial logit model. With this approach, we can ascertain whether the estimated effect of our independent variables on the relative odds of private versus public provision is spuriously driven by their correlation with the provision-versus-nonprovision choice. The results of this estimation are presented in Table 6. Not surprisingly, some of the best predictors of nonprovision are low personal per-capita income and low resident population, but these variables are not significant in predicting the choice between private and public provision. Also, the ideology variable is significant in predicting nonprovision, but not in predicting the choice between public and private provision. More noticeable than these differences are the many similarities between the two columns. While we have not pursued this very far, perhaps one can think of nonprovision as a more extreme outcome than private provision in response to some of the same clean-government and budget-constraint variables.<sup>7</sup> The key observation from Table 6, however, is that explicitly taking account of the provision/nonprovision choice does not alter our conclusions about the determinants of privatization.

□ **Interpretation.** Most of the evidence we have presented suggests that clean-government laws are associated with more, tough unions with less, and hard budget constraints with more privatization of local government services. This evidence is clear in our basic regressions using county services as units of observation, and it survives the corrections for sample-selection bias and the estimation of a random-effects model. What does this evidence imply for the three theories of privatization outlined in Section 2?

The evidence is consistent with the political patronage theory of privatization. State clean-government laws that lower the benefits of political control are actually associated with a higher probability of privatization, and the labor-market variables, such as strike laws, public unionization, and the unemployment rate, generally support this theory as well. An alternative interpretation is that clean-government laws increase the likelihood of

<sup>7</sup> We have also estimated an ordered probit, in which nonprovision is modelled as a more extreme option than contracting out. Its results are consistent with those in Tables 4 and 6.

**TABLE 6** Multinomial Logit of Cross-section of Service Provision in 1987

Dependent Variable: Service Provision in 1987	Private Contracting	No Provision by Local Government or by Private Contractor
<b>A. Clean-government variables</b>		
State law requires merit system for the county	.1143 (.0828)	.0618 (.0497)
State law sets purchasing standards for the county	.5817* (.1085)	.5978* (.0613)
State law forbids political activity for government employees	.3426* (.0896)	.2247* (.0517)
<b>B. Labor-market laws and conditions</b>		
State law does not allow county employees to strike	.4879* (.1632)	1.1265* (.0971)
Fraction of county employees in unions	-.6039* (.1854)	-.4232* (.1038)
Unemployment rate in the county	-.2451** (.1054)	-.1430** (.0612)
Wage premium of county employees over private-sector employees	.1913** (.0814)	.0197 (.0505)
<b>C. Budget constraints</b>		
State law does not allow counties to issue short-term debt	.2518** (.1129)	.0027 (.0661)
State law imposes debt limits on counties	.3498* (.1329)	.5083* (.0805)
State law mandates balanced budget for counties	-.4354* (.0963)	-.3949* (.0571)
State law does not allow the state to take over county finances	.7251* (.1800)	.7799* (.1022)
State assesses county property taxes	-.0482 (.1407)	-.1586** (.0818)
State's "rainy-day fund" as a percentage of state's total expenditures in 1987	-.0419* (.0080)	-.0276* (.0046)
<b>D. Ideology</b>		
Fraction of county votes for Republican governor	.3671 (.2609)	.6381* (.1543)
<b>E. Controls</b>		
County belongs to a regional organization	.0921 (.0682)	-.0651*** (.0395)
Fraction of county population living in municipalities	.6517* (.1857)	.5096* (.1050)
Fraction of county population above 25 years old with at least 12 years of education	1.1340** (.5260)	.0931 (.3045)
Personal per-capita income in the county in 1987	-.000102 (.000071)	-.000189* (.000037)
Resident population in the county in 1987	-.000081 (.000074)	-.000124* (.000041)
Additional county and state controls		Yes
Service and region dummies		Yes

TABLE 6 *Continued*

Dependent Variable: Service Provision in 1987	Private Contracting	No Provision by Local Government or by Private Contractor
Number of observations		36,504
Log-likelihood		-17,407
Prob > $\chi^2$		.0000
Pseudo $R^2$		.1907

Multinomial logit regression of the cross-section of the 12 different services of the 3,042 counties in the United States. The table reports coefficients and their standard errors.

\* Significant at 1%.

\*\* Significant at 5%.

\*\*\* Significant at 10%.

privatization by raising the “nuisance” costs of public production rather than by decreasing its political benefits. Importantly, this evidence does not imply that efficiency and social goals do not matter, only that they are not the whole story.

Some of the evidence may also be compatible with the ideology theory, according to which voters in some regions have a strong antigovernment sentiment that causes them to pass antigovernment laws (such as hard-budget-constraint laws and clean-government laws) as well as to privatize. According to this theory, all we are capturing is unobserved heterogeneity among regions of the country. Although we have tried to control for the political sentiment of the population by looking at the Republican votes in each county, as well as for a variety of other variables that might be correlated with local antigovernment sentiment, such as education, income, and wealth, distinguishing between the two interpretations of the evidence is difficult.

One further piece of evidence that we found informative is presented in Table 7. It shows the correlations across states between Republican votes and the existence of the various laws in these states. Two points about this table are noteworthy. First, many of the clean-government laws—including merit system and prohibition of employee participation in politics—are negatively correlated with Republican votes. Similarly, some hard-budget-constraint laws—including state debt limits on counties and state power to assess county property taxes—are negatively correlated with Republican votes. To us, this evidence is inconsistent with the view that all the laws are driven by voter antigovernment sentiment, which is probably at least somewhat related to Republican votes. Second, the correlations between different clean-government and budgetary-limit laws are typically small and often “of the wrong sign.” This evidence too makes us skeptical about the ideology interpretation of the results.

□ **Switchers.** As we showed earlier, there is no significant trend toward either privatization or nationalization between 1987 and 1992. However, we do have some “fast-moving” variables that may be as important for determining the transitions in the provision mode as they are for the long-run equilibrium. For example, the rainy-day-fund variable, which captures the 1987 available emergency resources of the state government, should theoretically determine the transition in provision modes between 1987 and 1992. Similarly, the percentage of votes for the Republican gubernatorial candidate is likely to reflect recent ideological shifts and not just the long-run political sentiment of the electorate.

Table 8 deals with the switchers. First, we look at the subsample of county services that were provided in house in 1987 and examine which of these switched to provision by private contract in 1992 and which stayed in house. We control for 1987 county

TABLE 7 Correlations of Variables at the State Level

Variable	Merit System	Purchasing Standards	No Worker Politics	No Strikes Allowed	No Short-term Debt	Debt Limits	Balanced Budget	No State Take-over	Assess Taxes	% Votes Republican
State law requires merit system for the county	1.00									
State law sets purchasing standards for the county	.039	1.00								
State law forbids political activity for government employees	.155	.090	1.00							
State law does not allow county employees to strike	-.051	-.183	-.176	1.00						
State law does not authorize counties to have short-term debt	.151	.160	.098	.183	1.00					
State law imposes debt limits on counties	.151	-.146	-.037	-.134	.021	1.00				
State law mandates balanced budget for counties	.027	-.067	.094	-.048	.067	.072	1.000			
State law does not allow the state to take over county finances	-.131	-.157	-.108	-.078	.157	.115	-.096	1.000		
State law assesses county property taxes	.203	-.155	.176	.091	-.014	.135	.048	-.421	1.000	
Fraction of county votes for Republican governor	-.183	.247	-.189	.138	.297	-.013	-.026	.051	-.240	1.000

government employment per 1,000 inhabitants, on the theory that a higher concentration of public employees might deter privatization. Consistent with the view that the system has achieved an equilibrium by 1987, the results are considerably weaker than for the cross-section. The competitive-bidding variable remains an important predictor of switching to private supply, although it is possible that states where privatization is favored also try to make sure that contracting is clean and hence introduce purchasing standards. Allowing public employees to strike remains a key factor in preventing the switch to

**TABLE 8 Privatization and Nationalization Switchers from 1987 to 1992**

Dependent Variables	Privatization Switchers Between 1987 and 1992	Nationalization Switchers Between 1987 and 1992
<b>A. Clean-government variables</b>		
State law requires merit system for county	.0028 (.0154)	-.0515 (.0510)
State law sets purchasing standards for the county	.0385*** (.0186)	-.2135* (.0689)
State law forbids political activity for government employees	-.0042 (.0155)	.0432 (.0565)
<b>B. Labor-market laws and conditions</b>		
State law does not allow county employees to strike	.0547** (.0235)	.0781 (.0891)
Fraction of county employees in unions	-.0067 (.0296)	.1979*** (.1152)
Equivalent full-time county government employees per 1,000 inhabitants	-.0007 (.0004)	.0096* (.0030)
Unemployment rate in the county	-.0088 (.0178)	.1078*** (.0616)
Wage premium of county employees over private-sector employees	.0101 (.0146)	-.0373 (.0534)
<b>C. Budget constraints</b>		
State law does not allow counties to issue short-term debt	.0437** (.0216)	-.0459 (.0669)
State law imposes debt limits on counties	-.0063 (.0273)	-.0192 (.0954)
State law mandates balanced budget for counties	-.0129 (.0157)	-.0454 (.0519)
State law does not allow the state to take over county finances	.0165 (.0285)	-.1363 (.1115)
State assesses county property taxes	.0317 (.0274)	-.2613* (.0854)
State's "rainy-day fund" as a % of state's total expenditures in 1987	-.0026** (.0012)	.0047 (.0035)
<b>D. Ideology</b>		
Fraction of county votes for Republican governor	.0775*** (.0457)	-.0981 (.1592)
<b>E. Controls</b>		
County belongs to a regional organization	.0218*** (.0114)	-.0586 (.0394)
Fraction of county population living in municipalities	.0499*** (.0294)	-.0037 (.1163)
Additional county and state controls	Yes	Yes
Service and region dummies	Yes	Yes
Number of observations	4,290	991
Log-likelihood	-1,518	-594
Pseudo R <sup>2</sup>	.473	.850

Probit regressions of the cross-section of the 12 different services of the 3,042 counties in the United States. The table reports derivatives and their standard errors. Derivatives are calculated as in previous tables.

\* Significant at 1%.

\*\* Significant at 5%.

\*\*\* Significant at 10%.

privatization. Two budget-constraint variables are statistically significant. State laws that prohibit counties from issuing short-term debt make contracting out more likely. High balances in state rainy-day funds make contracting less likely. The Republican-votes variable also has the predicted effect.

Although these results are weaker than the cross-sectional results, the two fast-moving variables that are likely to be the short-run stimuli to privatization, namely Republican votes and rainy-day balances, both enter significantly. Moreover, the signs of other coefficients are generally consistent with the cross-sectional evidence.

The only statistically significant variables in the nationalization regression are state purchasing standards, county unemployment rate, union representation, concentration of public employees, and state power to assess county taxes. With the exception of the last variable, all have the signs predicted by the political theory. This regression suggests that union and labor-market pressures are the most important for counties bringing contracted-out services in house. The other effects are not statistically significant but usually have the right sign for the political theory. These results, therefore, continue to provide evidence favoring the importance of the political determinants of the contracting decision.

## 5. Conclusion

■ This article presents the first systematic evidence on the political determinants of the privatization decision. The evidence suggests that political factors are important. Politicians derive significant benefits from in-house provision of public services—such as political patronage, support from public employee unions, control of unemployment through public payrolls—and may lose these benefits as a result of privatization. Consistent with this theory, we find that factors that reduce the political benefits from in-house provision, especially state clean-government and antiunion laws, make privatization more likely. Politicians give up the patronage benefits when they are not too large. On the other hand, with these data we cannot reject the possibility that clean-government laws are just nuisance laws that raise the cost of public production for public-spirited politicians.

The other side of the coin, of course, is that voters do not like taxes and that the only way politicians can pay for the patronage is through higher government spending. Taxpayer opposition to such spending is the political cost of in-house provision and the political benefit of privatization. Consistent with this theory, we find that factors that increase the cost of government spending, such as state laws restricting government financing and measures of the state's financial trouble, make privatization more likely. Politicians give up the patronage benefits when they become too expensive.

These results are consistent with the theory that the privatization decision is determined in part by the tradeoff that politicians face between in-house provision of public services, which brings them political benefits, and higher government spending, which brings them political costs. This political tradeoff, and not just the efficiency and ideological factors, is likely to determine the decision to privatize.

## Appendix

TABLE A1 Summary Statistics of Variables for the Population of 3,042 Counties in the United States

Variable	Observations	Mean	Median	Standard Deviation	Minimum	Maximum
<b>A. Clean-government variables</b>						
State law requires merit system for county	3,042	.3418	0	.4744	0	1
State law sets purchasing standards for counties (type of auction and preferences)	3,042	.7870	1	.4095	0	1
State law forbids political activity for government employees	3,042	.4494	0	.1859	0	1
<b>B. Labor-market laws and conditions</b>						
State law does not allow county employees to strike	3,042	.9494	1	.2192	0	1
Fraction of county employees in unions	3,036	.0948	0	.2103	0	.9917
Equivalent full-time county government employees per 1,000 inhabitants	3,042	10.196	6.9405	10.8039	0	288.653
Unemployment rate in the county in 1986	3,041	.0875	.0790	.0412	.018	.379
Wage premium of county employees over private-sector employees	3,042	1.1541	1.1072	.3586	.2128	4.3708
<b>C. Budget constraints</b>						
State law does not allow counties to issue short-term debt	3,042	.4820	0	.4859	0	1
State law imposes debt limits on counties	3,042	.7765	1	.4166	0	1
State law mandates balanced budget for county	3,042	.2158	0	.4114	0	1
State law does not allow the state to take over county finances	3,042	.9441	1	.2297	0	1
State assesses county property taxes	3,042	.0746	0	.2628	0	1
State's "rainy-day fund" in 1987 as a % of state's total expenditures	3,042	3.3302	3.29	6.3076	-11.72	41.27
<b>D. Ideology</b>						
Fraction of county votes for Republican governor	3,042	.4704	.4834	.1473	.0323	.8330
<b>E. Controls</b>						
County belongs to a regional organization	3,040	.6615	1	.4733	0	1

TABLE A1 *Continued*

Variable	Observations	Mean	Median	Standard Deviation	Minimum	Maximum
Fraction of county population living in municipalities in 1987	3,042	.4685	.4792	.2128	0	1
Percentage of the county's population above 25 years old with at least high school degree	3,042	.6961	.7137	.1038	.3156	.9892
Bank deposits per capita in the county in 1987	3,020	7,032.7	6,429.2	3,336.2	0	38,027.9
Resident population in the county in 1987	3,042	72,205.1	22,300	247,539.8	100	8,481,500
Population per square mile of land in the county in 1987 (in thousands)	3,042	1.2283	.3728	4.1282	.0006	117.1704
Personal per-capita income in the county in 1987	3,013	12,410.35	12,173	2,880.213	4,033	30,469
State unemployment rate in 1986	3,042	.0739	.0700	.0196	.028	.131
Percentage of the state's population above 25 years old with at least high school degree	3,042	.7469	.7516	.0553	.6428	.8663
Bank deposits per capita in the state in 1987	3,042	7.7124	7.2004	2.2411	3.8617	28.3259
Personal per-capita income in the state in 1987	3,042	14,078.61	14,008	1,884.04	10,318	20,344
Resident population in the state in 1987	3,042	6,434,280	4,807,000	5,579,408	490,000	27,700,000

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