

Civil Service Rules and Policy Choices: Evidence From US State Governments*

Gergely Ujhelyi

Department of Economics

University of Houston

gujhelyi@uh.edu

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Abstract

This paper studies the policy impact of civil service regulations, exploiting reforms undertaken by US state governments throughout the 20th century. These reforms replaced political patronage with a civil service recruited based on merit and protected from politics. I find that state politicians respond to these changes by spending relatively less through the reformed state-level bureaucracies. Instead, they allocate more funds to lower level governments. The reallocation of expenditures leads to reduced long-term investment by state governments.

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1 Introduction

Does a professional, independent bureaucracy lead to better governance? A distinguished tradition going back to at least Max Weber has argued that the answer is ‘yes’ and viewed the alternative, political patronage, as a source of corruption, waste, and the dominance of special interests. Today, the institution of a civil service with competitive, merit-based recruitment and protection from political pressure is a defining characteristic of modern democracies, and reform towards this ideal is advocated for developing countries by the World Bank and other organizations.¹ At the same time, the precise extent of civil service protections, including tenure and other rights of public employees, has been a contentious question and this is an active area of institutional reform in several developed countries. In the US, recent legislation in Georgia (1996), Florida (2001), and Arizona (2012) ended traditional civil service protections for a substantial number of state workers, while measures in Washington (2002) and Idaho (2011) increased managers’ flexibility to promote or fire employees. This paper studies the effect of civil service regulations on the policy choices of politicians.

The institutional debate on civil service regulations tends to focus on bureaucrats. Merit-based recruitment and civil service protections were originally introduced to increase bureaucratic competence, and recent steps to dismantle some of these protections aim at increasing bureaucratic efficiency and reducing red tape. This reflects the traditional view that “The field of administration is a field of business. It is removed from the hurry and strife of politics.” (Woodrow Wilson, 1887, p209). But changes in the way bureaucrats operate are likely to also affect politicians’ choices, and therefore the policies that bureaucrats may be asked to implement. Civil service regulations can impact the distribution of expenditures across government programs. Welfare programs may become less attractive to politicians if checks

¹According to the UNDP, “it is generally agreed that a competent civil service has the following characteristics: it is merit-based and politically neutral...” (UNDP, 2001, p5). Between 1981 and 1991, civil service reforms were a component in 90 World Bank loans to 44 different countries totalling over \$ 4.6 billion (Lindauer and Nunberg, 1996).

will be distributed by career civil servants rather than by loyal patronage employees; large construction projects may become less attractive when bureaucrats cannot be influenced to award the contract to a bidder favored by the politician or to locate the project in a swing district. Regulations can also impact the distribution of expenditures across government agencies. Politicians may circumvent a bureaucracy that has become less responsive to their demands by directing spending through other government agencies or lower-level governments. Understanding politicians' response to civil service regulations is a crucial step in assessing their welfare implications.

In this paper, I study the impact of civil service regulations on policy choices using new data on the timing of bureaucratic reforms in US state governments. The Pendleton Act of 1883 is generally credited with introducing the merit system in US (federal) government and making the recruitment and day-to-day operation of bureaucracies free from politics.² The two key provision of the Act established the principle of merit-based recruitment (competitive examinations) and prohibited the firing or demotion of employees for political reasons. Similar merit systems were gradually adopted by state governments throughout the 20th century. I collected original data on the date states adopted the merit system as well as various details of the regulations. I use this data to study changes in states' spending patterns following bureaucratic reform in the period 1942-1983.

I find that states introducing the merit system channel less spending through their reformed bureaucracies. Instead, they significantly increase the funds transferred to lower-level governments, which are typically not constrained by state-level merit systems. This is true both for overall spending, and for politically salient categories such as welfare expenditures and roads. Once the state-level bureaucracy becomes professionalized and independent, state governments shift some of their expenditures in these areas to lower level governments. These patterns are consistent with politicians rationally substituting away from ways of spending

²The introduction of the merit system represented a shift towards the Weberian ideal, away from the system of political patronage which it replaced. The consensus among public administration scholars and practitioners is that, at the time, this resulted in considerable improvement in the functioning of bureaucracies.

money over which they have less control.

The findings are reinforced when looking at the details of state-level regulations. Merit systems differ in the degree of control awarded to the state governor: states that require the chief personnel executive to be selected by an independent civil service board allow the least control. One might expect governors in such states to have increased incentives to rely on lower level governments in the administration of state projects. Indeed, I find that lower gubernatorial control, as measured by the independence of the personnel executive, leads to larger increases in intergovernmental transfers.

Does the reallocation of spending across units of government affect the level of expenditures in the affected categories? The evidence shows that it does. I find that introducing the merit system leads to lower spending on investments in roads and other long-term capital projects. All these findings are robust to controlling for a number of factors, including the strength of political parties and a measure of voter ideology, which may simultaneously affect institutional reform and spending patterns.

While my quantitative findings are specific to the context and period being studied, the results have a number of general implications. These provide potentially important considerations for current civil service reform proposals in the US and elsewhere. First, my results emphasize the need to understand the impact of bureaucratic reform in the context of the entire policy process. This includes not just policy implementation by the bureaucracy, but also the policy choices of elected politicians. Politicians' response to reform could either reinforce or offset any direct benefits from the merit system or other improvements of the bureaucracy. Second, I show that lowering politicians' control over bureaucrats in higher level governments can lead to the redistribution of spending towards lower levels of decision making. Moving resources away from the reformed bureaucracy in this way could be socially undesirable.³ The policy implication is that reforming multiple levels of government simultaneously could be more desirable than a gradual approach that focuses on specific

³In the concluding section, I discuss the assumptions that are needed to draw normative lessons on the desirability of civil service reform from my analysis.

levels. Third, my results point to a potentially important political economy motive behind decentralization. As the UNDP notes, “in most countries in which the [national] civil service is charged with making and implementing policy, pressures for decentralization and deconcentration are mounting.” (UNDP, 2001, p32) The results in this paper suggest that some of this pressure could be the result of politicians seeking to maximize their rents while being constrained by civil service regulations at the national level.

In the remainder of the paper, Section 2 places this paper in the related literature, Section 3 describes the background and presents the merit system data, Section 4 describes the theoretical framework, Section 5 discusses the empirical strategy, Sections 6 and 7 present the results, and Section 8 concludes.

2 Related literature

A large literature now studies how institutions shape the behavior of policy makers (see Besley and Case (2003) for a survey in the context of US states). While electoral rules (e.g., rules on voter registration, primaries or campaign finance) and decision-making rules (e.g., super-majority requirements or line-item veto powers) have received considerable attention, there is much less work on the effect of bureaucratic rules.⁴

Most previous research does not study the rules governing existing bureaucracies, but rather asks whether it is desirable to have an elected politician *or* an appointed bureaucrat in the first place (Besley and Coate, 2003, Alesina and Tabellini, 2007, Coate and Knight, 2011, Vlaicu and Whalley, 2011, Whalley, 2012). A closely related question, whether politicians will choose to delegate some of their powers to bureaucrats, has also been studied, mostly in political science (e.g., Epstein and O’Halloran, 1999). In contrast to all these papers, I take the existence of both bureaucrats and politicians as given, and ask about the effect of civil

⁴Some progress has been made in contexts where bureaucrats’ output can be directly measured. The findings of Bandiera et al. (2009) imply that a centralized procurement process can lower prices paid by Italian public bodies. Leaver (2009) finds that longer terms in office lead to more frequent electricity rate reviews by public utility commissioners in the US. None of these papers looks at politicians’ choices.

service rules on the choices of politicians.

Civil service reform is studied theoretically in Ujhelyi (2012). That paper explains how, in a political agency model, changing the quality of bureaucrats or politicians' control over them affects the ability of elections to screen or incentivize politicians. In particular, increased bureaucratic independence (lower compliance) reduces self-interested politicians' value of holding office. This may lead them to adopt socially inferior policies. In this case while bureaucratic performance improves, political performance becomes worse.⁵

Studying the effect of bureaucratic institutions on policies empirically requires comparable measures of institutions across jurisdictions. Due to data constraints, the few existing studies on this topic were forced to rely on limited sources of variation. For example, Rauch and Evans (2000) and Krause et al. (2006) use purely cross-sectional variation (in, respectively, a cross-country index of bureaucratic structure and the personnel selection method of US state government budget offices), while Ringquist (1995) studies a single time-series (EPA regulatory actions before and after a reorganization). The most convincing analysis to date is Rauch's (1995) study of municipal reforms in US cities using panel data from the period 1902-1931. However, Rauch's dataset did not include any time-varying control variables, so, e.g., one cannot rule out that changes in the political environment were simultaneously responsible for the institutional reforms and the changes in policy outcomes observed in the data.⁶ Focusing the analysis on civil service reforms in US states allows me to use a much richer dataset, and overcome many of the identification issues in previous studies. Studying civil service rules in the American states is interesting in its own right given the active reform agenda described in the Introduction. State governments currently employ around 5.3 million workers, most of whom are covered by some kind of merit system.

⁵There is a surprising scarcity of research on the civil service in political science. The field of Public Administration approaches the topic from a management rather than a social science perspective. This reflects the view, quoted in the Introduction, of Woodrow Wilson, who is often described as the field's founder. Kellough and Nigro (2006) contains a collection of relevant case studies.

⁶In a related context, Hanssen (2004) emphasizes the endogeneity of reforms that increase the judiciary's independence from politicians. Besley and Case (2000) provide a general discussion of identification issues related to endogenous institutions.

A recent paper by Folke et al. (2011) also collects data on merit system adoptions in US states. They study the effect of dismantling the patronage system on political outcomes (the future success of incumbent parties). They find that the introduction of the merit system significantly hurts incumbents' reelection chances. Together with my findings on employment outcomes, I take this as strong indication that the introduction of the merit system was not merely symbolic, but was indeed important in ending patronage and increasing bureaucratic professionalization and independence. My work complements Folke et al. (2011) by studying the effect of the merit system on policy choices (government spending). My dataset improves on theirs through extensive checks against various sources to establish the exact dates when merit systems were established, as well as by including information on specific provisions of the merit systems.⁷

Finally, this paper is related to the literature on intergovernmental transfers. Craig and Inman (1982), Knight (2002), Ansolabehere and Snyder (2006) and others have emphasized the endogenous nature of such transfers and have investigated the factors affecting their magnitude. To my knowledge, this is the first paper to highlight the role of bureaucratic rules on different levels of government, and the trade-off this can create on the donor's side between direct and intergovernmental spending.

3 Background and merit system data

Designing a civil service system involves a basic trade-off: civil service protections reduce bureaucrats' responsiveness to both undue political influence and legitimate policy directives. In the US, the first wave of modern civil service reforms focused on the first of these effects, and emphasized the importance of civil service protections and an independent bureaucracy. More recent initiatives emphasize the second effect, and consequently aim to

⁷Folke et al. (2011) rely exclusively on secondary data sources. As I explain in Section 3, the sources they use do not contain enough information to identify the exact dates of adoption. This results in some discrepancies with the data reported here.

weaken protections and curtail independence.⁸ My focus here is on the first wave of reforms, which consisted of a similar set of institutions (the “merit system”) adopted by US states at different times. Below I provide a brief background to and description of this reform process, discuss the causes of reform, and present the merit system data.

3.1 Patronage and reform in US states

Under the patronage system characterizing US government prior to the first wave of civil service reform, incumbent politicians were free to hire, fire, and require political services from virtually any public employee (see Tolchin and Tolchin (1971) and Freedman (1994) for extensive anecdotal evidence). A key component in this system were the strong party organizations connecting voters, public employees, and politicians at various levels of government.

The state party organizations allowed governors to retain control of patronage jobs both at the state and the local level. Sorauf’s (1956) famous essay, “State Patronage in a Rural County,” describes a typical case from Pennsylvania. Here, “the county chairmen of the governor’s party maintain control of appointments to field jobs within their respective counties.” (p1047) The party organization ensured that government decisions taken locally benefitted politicians higher up the hierarchy: “all [government] expenditure was political; all passed through the hands of men whose outlooks were largely shaped by party viewpoints; it was spent chiefly with an eye to party requirements.” Yearley (1970, p260). The political support and other favors traded between officials at various levels of the hierarchy resulted in “a totally interrelated system, in which franchises granted by municipalities can have profound effects upon the selection of our national leadership.” (Tolchin and Tolchin, 1971, p26).

The first wave of civil service reforms emphasized the need to improve the bureaucracy through merit-based recruitment, and the reduction of political influence by increasing bureaucratic independence. At the federal level, the Pendleton Act of 1883 introduced two key

⁸A detailed description of the history of US civil service reforms can be found in U.S. Office of Personnel Management (2003).

principles: merit-based recruitment,

“[...] open, competitive examinations for testing the fitness of applicants for the public service now classified or to be classified hereunder. Such examinations shall be practical in their character, and so far as may be shall relate to those matters which will fairly test the relative capacity and fitness of the persons examined to discharge the duties of the service into which they seek to be appointed.” (Civil Service Act of 1883, Sec 2, reproduced in US OPM (2003, p9))

and a civil service protected from politics,

“[...] that no person in the public service is for that reason under any obligations to contribute to any political fund, or to render any political service, and that he will not be removed or otherwise prejudiced for refusing to do so.” (Civil Service Act of 1883, Sec 2, reproduced in US OPM (2003, p10))

The Pendleton Act is often described as establishing the “merit system” in the American federal government.⁹ It served as the model for similar laws adopted by state governments throughout the next 100 years. Like the federal act, state-level reforms focused on merit-based recruitment and protections from politics. In most cases, a bipartisan Civil Service Commission or similar body was established to supervise the system and enforce these rules.

Reform at the state-level was slow. 50 years after the Pendleton Act, only 9 states had introduced a merit system. In 1939-40, federal requirements caused all states to adopt limited merit systems covering a small number of their employees. In particular, a 1939 amendment to the Social Security Act required that state agencies administering funds under the jurisdiction of the act (specifically, the Social Security Board or the Children’s Bureau) introduce a merit system to ensure “that employees shall be selected on a nonpolitical basis

⁹In this paper, I use the term “merit system” to describe the set of rules introduced by this first wave of reforms. Today the merit system typically includes other elements, such as merit-based compensation, but these were only introduced by the more recent reforms. While the Pendleton Act prohibited political dismissals, it did not institute a full-fledged tenure system. Developing such a system was the task of the Civil Service Commission, set up by the act, in the years following the passage of Pendleton.

and shall function on a nonpolitical basis.” (Social Security Bulletin vol. 2 N. 9, September 1939). In 1940, grants-in-aid administered by the Public Health Service were also included in this requirement. In response to these requirements, states that did not have comprehensive merit systems already in place established limited merit systems covering the relevant agencies. A series of surveys undertaken by the *Civil Service Assembly of the United States and Canada* over the period 1937-43 indicates that by 1942 all states adopted these required changes.¹⁰ This is the start date of the analysis in this paper. During the next 40 years, most states went on to adopt a centralized, comprehensive merit system covering most of their employees. This process is the focus of my empirical analysis.¹¹

In 1978, the federal Civil Service Reform Act started a second wave of reforms focused on making bureaucracies more efficient and responsive to policy directives. Many of these reforms centered around pay-setting procedures, such as performance bonuses,¹² others explicitly aimed at weakening civil service protections in an effort to make bureaucrats more accountable. Several state governments experimented with reforms in recent years, and the policy debate on optimal bureaucratic organization is on-going.¹³ Because these second-wave reforms are very different from each other, I do not include them in this analysis. However, this is an interesting topic for future research.

¹⁰Civil Service Assembly of the United States and Canada: Civil Service Agencies in the United States, Pamphlets Nos. 11 (1937), 16 (1940), and 17 (1943).

¹¹The above description of the reform process abstracts away from some institutional detail specific to particular states. In some cases, legislation establishing the merit system entered into force without the system actually operating. For example, Arkansas introduced a number of measures in 1937 in an attempt to establish a comprehensive merit system, but the system did not function and was repealed in 1939 (Holley, 1986). The state introduced a limited system as required by the Social Security Act in 1941, and eventually put in place a comprehensive merit system in 1969. My period of study (after 1942) presents a relatively clean picture: as described in Section 3.3 below only one state (Louisiana) repealed and / or reintroduced its merit system during this period.

¹²For an interesting case study of a reform from this second wave of regulations, see Orazem and Mattila (1990) on the process of implementing “comparable worth” pay-setting procedures in Iowa.

¹³Two particularly far-reaching reforms are Georgia’s 1996 removal of merit protections for newly hired employees, and Florida’s 2001 removal of protections for most of its employees. Other states with recent bills to weaken public employees’ protections and increase accountability include Washington (2002), Idaho (2011), and Arizona (2012).

3.2 The causes of reform

What caused the first wave of civil service reform and why were the states slow to adopt it? By taking away the possibilities for patronage, reform clearly posed a challenge to incumbent politicians' power and influence (Folke et al., 2011). Hence, governments rarely had an incentive to reform themselves in the absence of popular pressure. Tolchin and Tolchin (1971) provide extensive anecdotal evidence and conclude that "Politicians fear patronage losses more than any other political threat," and they are "jealously guarding against any incursions into this power" (p308).

The majority of historical accounts attribute reform to external pressure: the popular movement for good government that grew out of the Progressive era. This movement is described as heavily moralistic: "it was about political power and its abuse and about the quality of government. Civil service systems, or merit systems, were equated with "good" government." (Ingraham, 1995, p25). According to Mosher (1982), "Few reform movements in American history could draw so clear a distinction between right and wrong" (p68). The movement created voter pressure for reform: "the higher the public official, the more vehemently he must protest patronage practices in any form in order to win the respect of the public." (Tolchin and Tolchin, 1971, p259). While at the federal level the movement spread quickly, it was much slower in the states. As late as the 1950s observers noted that "the slowness of state governments to break with the discredited patronage system" was due to the fact that "there has not been sufficient organized citizen pressure to bring about such action." (Stahl, 1956, p29-30) Based on these accounts, the main determinant of state-level reform was the strength of the good-government movement among voters in a state.

Most of the literature in history and public administration agrees that voter pressure for good government was crucial to bring about reform. Nevertheless, some studies have advanced other reasons why incumbent politicians might wish to give up patronage. Ruhil and Camoes (2003) collect three reasons which could be relevant in the current context: (i) strong party competition could give incumbents an incentive to put their loyal employees

under a merit system in order to “lock them in” and make it harder for a challenger to enact new policies;¹⁴ (ii) a struggling economy may raise the importance of efficient public services, and civil service reform may be key to delivering them;¹⁵ and finally (iii) civil service reform may be enacted by coalitions of rural representatives to put an end to the dominance of cities, where patronage tends to accumulate. A priori, some of these arguments could go both ways and would therefore require a model to clarify the assumptions upon which they rest. Here, I will take them at face value, and check whether any of these causes of reform could bias the estimates below (see Section 5).

3.3 Data on merit systems

I collected data on the year when each state introduced a centralized merit system with comprehensive coverage, i.e., a uniform set of rules covering most employees in the state. The starting point for this was the biannual *Book of the States* (BoS) series of the Council of State Governments. This publication reports information from surveys of state personnel officials on whether the state has a personnel system “with general coverage” as well as the number of employees covered. While these two variables give some indication of when a comprehensive merit system might have been introduced, they do so for 2-year intervals at best and are subject to the usual issues associated with survey responses.¹⁶ I thus used the BoS to identify, where possible, a likely period of reform, and looked for government action (such as legislation or constitutional amendments) around those years, expanding the search

¹⁴See also Hanssen (2004). However, the assumption that employees hired by one party will continue to be loyal to this party and undermine the next government’s policies under their protected status may not hold. For example, politicians interviewed by Tolchin and Tolchin (1971, p101) complain of the “ingratitude” of patronage employees once they gain civil service protections. They refuse to serve the politician even while he is still in power.

¹⁵A related argument by Johnson and Libecap (1994) states that (at the federal level) reform served the interests of incumbent politicians because the increased size of government raised the transactions costs of managing patronage employees and negotiating over positions. According to this view, a civil service system provided a more efficient way to manage a growing labor force.

¹⁶These variables often suggest contradictory patterns, e.g., general coverage might switch from ‘no’ to ‘yes’ between two volumes while the number of employees covered actually declines. This may reflect changes in the interpretation of “general coverage” by the respondents.

as necessary.¹⁷ Finally, to the extent possible, I checked whether laws might have later been repealed. Overall, the process involved detailed searches through several hundred primary and secondary sources. Table 1 shows the timing of the reforms, and the Data Appendix contains the final list of sources used to establish the relevant dates.¹⁸

As can be seen from Table 1, the adoption of merit systems was spaced out over the 100 years following the passage of the Pendleton Act, with a substantial number of reforms occurring in the second half of the 20th century. New York was the first adopter (in 1883, shortly after the passage of the federal Pendleton Act). The last state to introduce a merit system was West Virginia, in 1989, preceded by Mississippi in 1977. Texas is the only state that never had a comprehensive merit system. Except in one case, I did not find any indication that a merit system introduced in my period of study was later repealed.¹⁹

The period of analysis in this paper is constrained by the availability of state expenditure data, which begins in 1942. As described above, this start date also has the advantage of excluding the federally mandated reforms of 1939-1940. At the other end, I chose a cutoff date of 1983, five years after the adoption of the 1978 Civil Service Reform Act. In practice, this means that I exclude from the analysis the West Virginia reform. This system was adopted in an active period of second-wave civil service reforms that focused on *weakening* civil service protections. By focusing on the pre-1978 reforms, we are more likely to study

¹⁷Every state has positions (political appointees) and sometimes entire agencies exempt from the merit system. No data exists on the percentage of covered employees for all states and years over this period. I therefore looked for legislation that observers (e.g., contemporary news reports) described as “establishing the merit system,” or “ending patronage,” and doing so for “most” state employees.

¹⁸Independent work by Folke et al. (2011) also collects data on state merit system adoptions. Since they look at political outcomes, which vary infrequently, identifying the exact year of adoption was less crucial in their case. For the relevant period (after 1942), they relied exclusively on two sources: The Book of the States data described above, as well as a 1974 essay on state and local personnel administration (published as Aronson, 1979). The latter mentions a variety of reforms introduced by state and local governments without describing in detail what those reforms are, and in most cases without citing the source of the reported date. Neither the BoS, nor the Aronson essay provides sufficient information to pin down the exact years in which states adopted a comprehensive merit system. This explains why the Folke et al. data lists some states in different decades than my data (that paper only reports the decade of adoption for each state).

¹⁹Louisiana had a merit system in place 1940-1948, which was repealed and then reintroduced starting in 1952. Here I decided to use 1952 as the date of introduction and ignore the earlier system so that the time series for Louisiana behaves similarly to that of other states. Taking the earlier system into account does not change the results.

comparable institutional reforms. Including data up to 1983 allows me to estimate the lagged effects of introducing the merit system. In this period of analysis, 28 states adopted a comprehensive merit system (Virginia, 1943 - Mississippi, 1977).

I also obtained information from the *Book of the States* on whether the merit system provided for a personnel executive who is independent from the governor. In particular, merit systems differ in whether the personnel executive in charge of administering the system is appointed by the governor or by someone else (typically a civil service commission or board).²⁰ The descriptive literature suggests that an independent personnel executive further reinforced the separation between bureaucrats and politicians created by the merit system (e.g., Shafritz et al., 2001, Ch 1). Thus, this variable is a plausible indicator of the intensity of reform. Although this data is only available starting in 1965, we have considerable institutional variation within states. Over the period 1965-1983, there were 38 changes in 26 states, and 31 of these were changes made to already existing merit systems.

4 Theoretical framework

The strong party organizations that characterize the patronage system give incumbent policy makers a variety of ways to achieve their political objectives. State governments can spend money directly, or they can make transfers to lower level governments, such as cities or counties, and trust the party organization to ensure that spending still occurs in a way that benefits them. This suggests that intergovernmental transfers represent a policy likely to be affected by civil service reform.

I interpret the empirical results in the context of the following simple model of government spending.²¹ A state governor has to allocate spending for a public good. Spending on the good provides both social value, and a private value to the governor (for example, in the

²⁰Since this is a relatively straightforward, objective question, survey responses from the BoS are less problematic than for the merit system variable.

²¹This is not meant to capture all the relevant aspects of civil service reform, but rather to make explicit the logic behind the empirical exercise below. See Ujhelyi (2012) for a detailed treatment of civil service reform in a political agency model of elections.

form of swing voters, or through opportunities for patronage). Spending can take place either at the state level (i.e., through state agencies) or at the local level (through the local government). Let s and l denote the amount of spending at the state and local levels, respectively. For every dollar of spending at the state level, a fraction $\alpha \in (0, 1)$ is used to produce the socially valuable public good g , while the remaining $(1 - \alpha)$ only benefits the politician. For example, $1 - \alpha$ can be the fraction of public funds that bureaucrats divert to the party or cronies of the governor - either for their personal use, or for the “production” of votes. The corresponding fractions for using officials of the local government are β and $(1 - \beta)$. Thus, both the public good and the governor’s private benefit can also be produced through local spending. The latter can occur, for example, as described by the historical accounts quoted in Section 3.1. Since the governor controls patronage at the local level through the party organization, this gives him some degree of control over local bureaucrats. More generally, local politicians benefit from receiving state aid, and in return may provide electoral support and other benefits to the governor. Voters may also directly reward the governor for state aid to their locality.

Suppose that the production of the public good is given by a CES function $g(s, l) = [(\alpha s)^\sigma + (\beta l)^\sigma]^{1/\sigma}$ with $\sigma \in (0, 1)$, capturing the idea that state and local provision of the public good can be substituted at least to some extent. The governor cares about social welfare $W(g)$, as well as his private benefit, which is γ per dollar of public funds diverted for private use. For simplicity let $W(g) = g$, so that the governor solves

$$\max_{l,s} g(s, l) + \gamma \cdot [(1 - \alpha)s + (1 - \beta)l] \text{ subject to } s + l = B,$$

where B is the exogenously given budget. Taking the first-order condition, the division of

spending between the state and local levels is determined by

$$\begin{aligned} [(\alpha s)^\sigma + (\beta l)^\sigma]^{1/\sigma-1} [\alpha^\sigma s^{\sigma-1} - \beta^\sigma l^{\sigma-1}] &= \gamma(\alpha - \beta) \\ l &= B - s. \end{aligned} \tag{1}$$

The introduction of a merit system at the state level increases the productivity of state-level bureaucrats and at the same time lowers the usefulness of public funds in providing private benefits to the politician. This is conveniently captured by an increase in the parameter α . Assume that initially $\alpha = \beta$, i.e., bureaucrats operate with the same efficiency and provide the same private political benefits at both levels of government. Differentiating (1) with respect to α yields

$$\frac{\partial s}{\partial \alpha} \Big|_{\alpha=\beta} \sim [(\alpha s)^\sigma + (\beta l)^\sigma]^{1/\sigma-1} (\alpha s)^{\sigma-1} \sigma - \gamma.$$

When $\gamma = 0$, so that the politician maximizes social welfare, this is positive, while $\frac{\partial l}{\partial \alpha} = -\frac{\partial s}{\partial \alpha}$ is negative. The socially efficient response to the increased productivity of state-level bureaucrats is for the state government to spend more at the state level and less at the local level. However, when $\gamma > 0$, the politician may choose to do the opposite: reduce spending at the state level and increase spending at the local level ($\frac{\partial s}{\partial \alpha} < 0$ and $\frac{\partial l}{\partial \alpha} > 0$). This is because a higher α makes the state-level bureaucracy less useful in providing private benefits. The governor may therefore choose to reallocate spending towards lower levels of government even if this lowers welfare.

Below, I estimate the change in l following reforms of the bureaucracy in US state governments. If the politician's self-interest γ is large enough, I expect to find $\frac{\partial l}{\partial \alpha} > 0$, i.e., an increase in state spending directed towards local governments. In the context of this model, this would imply that reform caused a socially undesirable change in this policy outcome.²²

²²The assumption that $\alpha = \beta$ in the absence of a merit system can be relaxed. If $\alpha > \beta$, nothing important changes: efficiency would require $\frac{\partial l}{\partial \alpha} < 0$, but $\frac{\partial l}{\partial \alpha} > 0$ when γ is large. If $\alpha < \beta$, then depending on the parameters it is possible that as α increases towards β , raising l is socially efficient initially, and the model

5 Specification

I estimate the impact of the merit system using standard fixed effects regressions controlling for a large number of time-varying covariates. While this setting offers no randomized experiment, I am able to control for a number of well-specified alternative explanations that may pose a threat to identification. In particular, I can control for all the causes of reform suggested by the public administration / political science literature reviewed in Section 3.2, as well as some other plausible stories that have not been suggested in previous studies. I can also rule out *any* confound which would cause expenditures to change prior to reform rather than after it. As argued in Section 2, this represents a significant improvement in identification over the extant literature on the policy effects of bureaucratic institutions.

The main regressions reported below take the form

$$Y_{st} = \alpha Merit_{st} + \beta \mathbf{X}_{st} + \gamma_s + \delta_t + \varepsilon_{st}, \quad (2)$$

where Y_{st} is some outcome of interest in state s and year t , α and β are parameters, $Merit_{st} = 1$ if state s had a merit system in place in year t , \mathbf{X}_{st} is a vector of time-varying state characteristics, and γ_s and δ_t are state and year fixed effects. The coefficient of interest, α , is identified from the states that introduced a merit system in the sample period.

The outcome variables are various annual state expenditures and employment categories (summary statistics and definitions appear in Table 2, and the Appendix contains all data sources and further details). A main outcome of interest is intergovernmental expenditures to lower level governments, which include amounts paid for the performance of specific functions or for general financial support. As argued above, these provide a natural way for a governor to spend money without using bureaucrats employed under the state-level merit system.

Welfare expenditures and infrastructure projects such as roads are commonly viewed as

predicts that $\frac{\partial l}{\partial \alpha} > 0$ regardless of γ . Thus, if the relationship between α and β is unknown, then a finding that $\frac{\partial l}{\partial \alpha} < 0$ in the data would rule out decreasing welfare, while $\frac{\partial l}{\partial \alpha} > 0$ indicates that this possibility cannot be rejected.

politically salient (see, e.g., Dye (1984) on welfare spending and Knight (2002) on roads). Both can be targeted to specific groups, and bureaucratic discretion plays an important role in both (e.g., bureaucrats are heavily involved in the allocation of cash assistance as well as in government procurement and the selection of contractors). We may therefore expect politicians to adjust these in response to bureaucratic reform.

To check the effectiveness of the merit system, I also document its effect on employment outcomes, including the number of employees (total, full-time, part-time, or full-time equivalent) and payrolls (total or full-time equivalent). The expenditure data series starts with fiscal year 1942 and the employment data with 1946, with some early years missing.²³

As control variables, I include the state characteristics commonly used in the literature on institutions and policy outcomes (e.g., Besley and Case, 2003): state personal income and population (linear and quadratic terms) and the share of population between 5-17 and over 65.

One concern that I take seriously throughout is whether the estimated relationships could be due to omitted factors simultaneously causing policy outcomes and civil service reform. Section 3 lists four factors mentioned in the literature as possible causes of reform: a struggling economy, rural-urban conflict, the electoral strength of the incumbent party, and voter pressure for good government. The first two of these are easy to control for. The inclusion of state income and its square should already control for the state of the economy; to control for the rural-urban divide, I also include the percentage of the population living in urban areas.

In this context, controlling for party strength might seem particularly important a priori. If it was the case, for example, that Republican administrations were more likely to introduce the merit system *and* to have smaller governments, then regressing public expenditures or employment on *Merit* would yield a coefficient biased downward. However, a first look at

²³When merging the expenditure data, I match each fiscal year to the preceding calendar year. For example, expenditures for fiscal year 1971, which typically runs from July 1, 1970 to June 30, 1971, are assigned to the year 1970. These are the expenditures that are most likely to be impacted by a merit system adopted in calendar year 1970.

the data gives little indication that either party played a larger role in the introduction of the merit system. In our period of study, 13 states adopted the merit system under a legislature controlled by the Democratic party and 10 under a legislature controlled by the Republican party. The average year of adoption is also similar under Democratic and Republican controlled legislatures: 1961 and 1958, respectively (these differences are all statistically insignificant). Therefore whether party strength belongs in the regression is not obvious a priori.²⁴ Nevertheless, I present regressions adding dummies for Republican control of the state legislature (both houses), Democratic control, as well as the party affiliation of the governor. I refer to these three variables together as “party strength.” By construction, for each year t the value of these variables is predetermined. The regressions with party strength exclude Nebraska (nonpartisan legislature) and Minnesota (where the Democratic / Republican party labels were not applicable prior to 1975).

Party strength may not be a good measure of voter ideology across states. I therefore also show regressions that include a widely used measure of citizen ideology from Berry et al. (1998). This index rates the ideology of congressional candidates (how liberal they are, irrespective of their party label), and uses their vote shares to compute an ideology measure for the electorate. These regressions exclude years prior to 1960, for which the ideology measure is not available. Here, the coefficient on *Merit* is identified from the 16 merit system introductions that occurred after 1960.

Once all these controls are added, the identifying assumption is that the strength of the popular movement for good government was unrelated to factors affecting the dependent variable, most importantly the share of intergovernmental expenditures in total state spending.

To further probe the validity of this assumption, I include lags and leads of the policy change. I use 5 lags and 5 leads, and use a balanced panel of states to identify all these

²⁴In fact the empirical link between party control and the size of government is also questioned by several studies in the literature (see Besley and Case, 2003).

coefficients. For this “event study,” I estimate

$$Y_{st} = \sum_{\tau \in [-5, 5], \tau \neq 1} \alpha_{\tau} Merit'_{s,t,\tau} + \beta \mathbf{X}_{st} + \gamma_s + \delta_t + \varepsilon_{st}, \quad (3)$$

where for $\tau \in (-5, 5)$, $Merit'_{s,t,\tau} = 1$ if the merit system is introduced in year $t + \tau$, $Merit'_{s,t,-5} = 1$ if the merit system was introduced at least 5 years ago, and $Merit'_{s,t,5} = 1$ if the merit system will be introduced 5 or more years from now. For $\tau > 0$, α_{τ} measures whether the merit system had an “effect” τ years *before* it was introduced (measured relative to the year before introduction). If we cannot reject $\alpha_{\tau} = 0$ for $\tau > 0$, this will increase our confidence that the estimates are not due to omitted time-varying factors simultaneously causing civil service reform as well as the outcome Y . For $\tau < 0$, the coefficient α_{τ} measures the lagged effect of the merit system τ years following its introduction. These coefficients can be used to assess the temporary vs. persistent impact of reform.

Finally, I look at the degree to which the merit system is formally independent of the governor. Although merit system provisions are very similar across states, the enforcement of civil service protections may be less vigorous in states where the personnel executive is directly appointed by the governor. I add information on whether the merit system features an independent personnel executive (IPE) and estimate

$$Y_{st} = \alpha_1 Merit_{st} + \alpha_2 IPE_{st} + \beta \mathbf{X}_{st} + \gamma_s + \delta_t + \varepsilon_{st},$$

where $IPE_{st} = 0$ if either $Merit_{st} = 0$, or $Merit_{st} = 1$ and the executive is appointed by the governor. Thus α_2 measures the impact of having a merit system with an independent executive relative to a merit system where the personnel executive is not independent. In general we expect $\text{sign}(\alpha_1) = \text{sign}(\alpha_2)$, since an independent executive strengthens the separation between bureaucrats and politicians introduced by the merit system. We can also test the effect of a merit system with an independent executive relative to an environment with no merit system by testing whether we can reject $H_0 : \alpha_1 + \alpha_2 = 0$.

Throughout, I let the error term ε_{st} be heteroskedastic and correlated across years in a given state, and therefore estimate robust standard errors clustered at the state level.

6 Results

6.1 The increase in intergovernmental expenditures

This section presents the main finding of the paper. Table 3 shows that politicians respond to the introduction of the merit system by increasing expenditures away from the reformed bureaucracy and towards lower levels of governments. In every column, the dependent variable is the share of intergovernmental expenditures in total expenditures. Column (1) presents the estimates from Equation (2) for the full sample, controlling for state and year fixed effects, state population and its square, real per capita income and its square, and the fraction of population aged 5-17 and 65 and above. Introducing the merit system raises the share of intergovernmental expenditures by 3 percentage points (the mean is 27.2%). In the next four columns, I investigate whether this effect could be due to omitted variables simultaneously causing a change in expenditure patterns and the introduction of the merit system, taking into account the historical accounts described in Section 3.2. In Column (2), I include political variables measuring party control of the state legislature and party affiliation of the governor, as well as the percentage of urban population in the state. In Column (3), I restrict the sample to the post-1960 period, and in Column (4) include the party strength and urbanization controls as well as the voter ideology index of Berry et al. (1998). (Table A1 in the Appendix shows the detailed regression output when these controls are included jointly or one by one.) The estimated effect of the merit system remains robust throughout.

The advantage of measuring the dependent variable as a fraction of total spending is that this controls for any changes in overall spending in a state. In particular, the estimated increase in intergovernmental expenditures cannot be due to an overall increase in spending

(for example, through increased government revenue). However, one may be interested in whether the estimates are driven by changes in intergovernmental expenditures (the numerator) or changes in total expenditure (the denominator). Repeating these regressions for real per capita expenditures reveals that the estimates are driven by increases in intergovernmental spending (Table A2 in the Appendix). This supports the interpretation of the results as reflecting politicians' incentive to allocate spending differently between the state and the local levels once a state-level merit system is introduced.

Column (5) of Table 3 presents a specification that deals with the potential endogeneity of civil service reform in a more conservative way. Rather than including the specific controls above suggested by the historical accounts in Section 3.2, this column includes state-specific time trends. This allows for cross-state differences in the trend of intergovernmental expenditures and, in contrast to the earlier estimates, does not attribute all differences in trends to the merit system. While naturally smaller than the previous estimates, this effect is also statistically significant: on average, the merit system causes a 1.8 percentage point increase in the share of intergovernmental expenditures relative to the state-specific trend.

As a final check on the validity of interpreting these estimates as causal, I include lags and leads of the merit system variable, as in Equation (3). The coefficient estimates from this regression are graphed in Figure 1 and reported in Table A3 in the Appendix. The estimated "effect" of a merit system on the share of intergovernmental expenditures is virtually 0 in the four years preceding the introduction of the system. In the first year when expenditures occur under a merit system, the share of intergovernmental spending shifts up and stays at this higher level for the next four years. These patterns are consistent with a causal interpretation: the merit system led to an increase in the share of intergovernmental spending, and the new structure of spending seems to have stabilized for the following 4-5 years.

It is of course possible that the increase in intergovernmental spending represented more than the reallocation of short-term state budgets. The incentives described in the simple model above may have led politicians to transfer entire areas of decision making to lower-

level governments in response to civil service reform. Thus, the estimated effect of the merit system could include both policy changes and more far-reaching institutional changes.

6.2 Employment and payrolls

The previous section established the effect of the merit system on intergovernmental transfers. In what follows, I ask whether interpreting the increase in transfers as politicians' rational response to constraints created by the merit system, as in the simple model of Section 4, is warranted.

As described in Section 3.2, some authors have interpreted the introduction of the merit system as reflecting the strategic incentives of incumbent politicians to create entrenched bureaucracies. This would create an incentive for politicians to hire more loyal employees and perhaps increase their wages. Creating part-time positions would be especially attractive since they allow the employment of more supporters for a given budget. By contrast, if the introduction of the merit system is driven by voter demands for a more efficient bureaucracy, we would expect reform to be associated with a reduction in employment, especially among part-time workers.²⁵

Table 4 presents estimates from Equation (2) for various employment outcomes. For each outcome, I first present a regression on the full sample controlling for state and year fixed effects, state population and its square, real per capita income and its square, and the fraction of population aged 5-17 and 65 and above. I then add the party strength and urban population measures to control for these potential determinants of civil service reform. Next, I restrict the sample to the post-1960 period for which the citizen ideology measure is also available, and finally include all these controls.

Panel A does not support the view that introduction of the merit system led to increased employment. The Merit variable is associated with a 3.5-5.4% reduction in employment.

²⁵While the merit system put an end to political firings, employees could still be dismissed for non-performance. The tenure system, including the procedures for dismissal and appeals, was usually developed by the civil service commissions following the adoption of the merit system.

Panels B and C show that this is driven by part-time employees: civil service reform led to a particularly large decline of 12-16% in this category. Full-time employment may also have decreased but this is never statistically significant.

These findings reinforce the view that the introduction of the merit system was not just a symbolic act, but in fact contributed to streamlining state bureaucracies which were thought to be bloated with patronage employees. There is no indication that incumbent politicians were able to use the system to put more of their loyal employees on public payrolls. To the extent that part-time employment is particularly prone to patronage, the especially large reduction in part-time employees also supports this interpretation.²⁶ Finally, if the merit system was used to protect entrenched bureaucrats, it might allow them to acquire higher salaries, especially given the reduction in the number of employees found above. We do not find evidence of this in the data. In panels D and E, introducing the merit system has an insignificant negative effect on monthly payroll expenditures and an insignificant effect on average full-time equivalent wages.

6.3 Intergovernmental expenditures on welfare and roads

The model in Section 4 considers public good spending that delivers private benefits to the politician (perhaps through patronage opportunities or through electoral support). Thus, we should expect to observe an increase in the share of intergovernmental spending within such politically salient categories.

Table 5 asks whether politicians' incentives to shift expenditures to bureaucrats not affected by the merit system can be observed for welfare expenditures (Panel A) and spending on roads (Panel B). Both of these categories are commonly viewed as politically important and prone to political targeting (see, e.g., Dye (1984) and Knight (2002)). At the same time, a large degree of bureaucratic discretion is involved in deciding where and how the money is

²⁶The above results offer little support for the view that an increasing labor force raised the transaction costs of patronage and caused politicians to abandon the system. If anything, merit adoption is associated with lower employment.

actually spent. For example, welfare recipients have to go through an approval process, and investment projects go through government procurement.

In both panels, the dependent variable is the ratio of intergovernmental to total expenditures in the given category. I find that these shares increase significantly once the merit system is introduced. The increase in intergovernmental welfare expenditures is especially sizeable: 9-16 percentage points relative to a mean of 22%. The estimates are similar in the full and the post-1960 sample and are increased by the inclusion of urbanization, party strength and citizen ideology. The estimated increase in intergovernmental spending on roads is 1.5-2.2 percentage points relative to a mean of 17.8%. These results are also robust to the inclusion of controls.

These findings are consistent with the idea that politicians reduce spending through channels where they have less control over policy implementation. The particularly large decline in the share of direct expenditures in welfare spending is especially suggestive. Bureaucratic discretion can play a large role in the allocation of cash transfers, and therefore the merit system has a large impact on politicians' ability to influence where the money ends up.

6.4 Further evidence from detailed regulations

While all state level merit systems formally ended patronage and moved the bureaucracy towards the Weberian ideal, there is variation in the operation of personnel systems across states. This variation can be used to assess the validity of the findings and interpretations presented above.

One concern with the findings reported above is whether state governments might explicitly encourage the establishment of local merit systems following civil service reform at the state level. If that was the case, it could be that intergovernmental transfers reflect state assistance for the development of civil service procedures (e.g., testing procedures) at the local levels.

To the extent possible, I checked whether the state-level merit system contained any pro-

visions for the merit systems of lower level governments such as cities or counties. I found three types of relevant provisions. (1) A statute might state that local governments subject to federal grant-in-aid requirements should have a merit system. Since this provision restates a requirement imposed earlier by the federal government (mostly in 1939-40, as described above) it does not represent a change in regulations. (2) A statute might state that the state personnel board can enter into agreements with lower level governments to “furnish services and facilities in the administration of its personnel program.” (e.g., 1967 Florida Statutes, Chapter 110, section 110.071). These agreements are not mandatory; moreover, the provisions typically specify that the local government should reimburse the state personnel board for its expenses. Therefore these agreements would not be reflected in intergovernmental expenditures *from* the state *to* the local government unit. If anything, payments would flow in the opposite direction. (3) I found a single instance where a state-level statute required a local government unit to establish a new merit system: the 1952 Constitution of Louisiana establishing the state-level merit system also required one city, New Orleans, to establish such a system (Article XIV). Thus, the state-to-local transfers in Louisiana during this period could conceivably reflect direct assistance by the state government to the city of New Orleans in establishing its merit system. I checked that excluding Louisiana from the regressions leaves my results intact.

Another useful characteristic of state merit systems is whether the personnel executive is independent of the governor. Despite similar merit system provisions, the *de facto* separation between bureaucrats and politicians may be weaker when the personnel executive is appointed by the governor. If the interpretation that the shift from direct to intergovernmental spending reflects politicians’ rational response to a more independent bureaucracy is correct, these patterns should also appear when comparing merit systems with and without an independent personnel executive. A personnel executive who is independent of the governor reinforces the separation between the political executive and the bureaucrats implementing his policies. In this case, the incumbent politician should have added incentive

to shift spending away from state-level bureaucrats and towards lower level governments. To measure this, the variable *IPE* takes the value of 0 if the personnel executive is appointed by the governor and 1 in all other cases (appointed by civil service commission, personnel board, or department head).

In Table 6 I estimate the effect of *IPE* on the share of all intergovernmental expenditures in total spending as well as the shares within welfare expenditures and spending on roads. Since the *IPE* variable also takes the value of 0 in the absence of a merit system, the coefficients estimates listed in the second row measure the impact of an independent executive relative to a merit system where the executive is not independent from the governor. The coefficients on *Merit* in the first row measure the impact of a merit system with no independent executive relative to no merit system, and I also report an F-test for the hypothesis that the sum of these two coefficients is 0 (i.e., testing the impact of a merit system with an independent executive relative to a situation with no merit system). Since a personnel executive independent from the governor may increase the independence of the bureaucracy as a whole, we expect the effect of this variable to reinforce the effects of a merit system.²⁷

The findings in Table 6 confirm this interpretation. In Column (1), introducing a merit system with no independent executive increases the share of intergovernmental spending by 2.8 percentage points, and making the executive independent adds a further 1.1 percentage points. I find similar results in Columns (2) (welfare) and (3) (highways): in both cases, the *Merit* and *IPE* coefficients have the same sign and are generally statistically significant. Thus, an independent personnel executive further reinforces the effect of the merit system on the division of state spending between direct and intergovernmental expenditures. As expected, politicians adjust their behavior not simply in response to the introduction of the merit system, but also in response to the marginal incentives created by specific features of that system. The closer the system is to the Weberian ideal of a complete separation between politicians and bureaucrats, the more politicians spend outside the bureaucracy

²⁷Because information on the personnel executive is only available starting in 1965, I lose the majority of the policy changes used to identify the effect of *Merit* in the previous regressions.

that it regulates.

6.5 Alternative explanations

This section considers threats to identification and alternative explanations not ruled out by the specifications above.

Federal IG transfers. One might be concerned about the role of earmarked intergovernmental transfers from the federal government. The federal government spends a substantial amount at the local level, and it may prefer spending money through bureaucrats subject to a merit system. State bureaucracies under a merit system may be asked to administer federal transfers to local governments. Civil service reform could therefore lead to increased federal-to-local transfers administered by the state, which may show up in the data as increased state-to-local transfers, even if all that has changed is the channel through which the money flows.

A priori, this is unlikely to drive the results, since most agencies administering federal grants were required to adopt a merit system in 1939-40 even if the state had no comprehensive merit system (see Section 3). Thus, the *Merit* variable captures reform among precisely those bureaucrats who are unlikely to be administering federal funds. Nevertheless, I checked that the results are robust to including as an additional control the amount of per capita state revenue from federal intergovernmental transfers. The findings for both Merit and Independent Personnel Executive continue to hold (Tables A4 and A5 in the Appendix).

Decentralization of state government. Another source of concern could be some institutional move towards decentralization within a state happening simultaneously with civil service reform. Decentralization would lead to increased spending at the local level, which might explain the patterns above. Note however that this will only pose a threat to identification if decentralization happens simultaneously with, rather than before, civil service reform. Past decentralization causing both the change in IG spending and reform would not explain why IG expenditures systematically increased *after* the merit system was introduced

(Figure 1). The crucial question is then why decentralization and civil service reform might happen simultaneously.²⁸

One possibility is if incumbent state employees represent entrenched interests opposing civil service reform. By weakening this group, decentralization could lower resistance against reform and facilitate the introduction of the merit system. Note that this would also be consistent with the negative association between Merit and state employment in Table 4. A priori, one difficulty with this explanation is that decentralization would have to reduce opposition and lead to the enactment of reform very quickly (in the same fiscal year) to explain the patterns above. In most cases this would not seem realistic. Another difficulty is the assumption that state employees represent entrenched interests against reform: on the contrary, the existing historical literature describes workers perceiving patronage to be a burden and favoring reform, and a larger state workforce being *conducive* to the adoption of the merit system (Sorauf, 1956, Johnson and Libecap, 1994). Nevertheless, as a more formal check on this story, I included log employment as an explanatory variable in the IG expenditures regressions (Tables A4 and A5). The results remain robust.

Another possibility for simultaneous decentralization and civil service reform is the so-called “home rule movement” for city governments. City home rule describes the power to self-govern - at the most basic level, cities’ constitutional right to modify their own charters. It is an indication of the importance of local governments, and is therefore likely to have an effect on the distribution of public spending between the state and local levels. The literature describes the idea of home rule as gaining considerable strength during the Progressive movement (Krane et al., 2001). Since this is the same movement that was responsible for the spread of civil service reform, the question arises whether the two types of reform might have happened simultaneously. If it was the case that the states enacted home rule laws in the same periods as they introduced the merit system, this could potentially explain the

²⁸For example, if civil service reform and decentralization were jointly caused by a particular type of politician, we would expect decentralization to be just as likely *before* bureaucratic reform as after it during the politician’s term in office. (Being newly elected does not explain why this would not be the case: only 4 merit system adoptions in my period of study occurred in a newly elected governor’s first year in office.)

increase in state-to-local transfers observed in the data.

To check this, I use the dates of adoption of home rule provisions collected by Krane et al. (2001). A state is categorized as “home rule state” if it allows at least the most basic form of autonomy (“structural home rule”), and the date listed corresponds to the enactment of such legislation (typically a constitutional amendment). Comparing this data to the dates of merit system adoption does not indicate a connection between the timing of home rule provisions and civil service reform. 22 of the states that introduced the merit system during my period of study also adopted home rule provisions at some point in time. However, only 2 of these did so in the ten years preceding the introduction of the merit system (Montana four years before, Missouri in the same year). Thus, controlling for whether the state has a home rule provision on the books in a given year does not affect my results (Tables A4 and A5). In fact, 8 states introduced home rule provisions in the ten years *following* civil service reform. Based on the model in Section 4, such decentralization could be a response to civil service reform.

Immigrants. Several descriptions of local US politics in the early 20th century highlight the role of patronage networks based on ethnicity among recent immigrants (see, e.g., Clark (1975) on patronage among the Irish in Boston). It is also conceivable that a state facing a sudden influx of immigrants sees more demand for local support in the form of intergovernmental transfers. Thus, the fraction of immigrants could in principle be a relevant omitted variable. Whether this would go against or reinforce the findings above is theoretically unclear: more immigration could increase demand for patronage and make civil service reform less likely. Alternatively, civil service reform could be a way to break traditional patronage networks and allow new immigrants a chance at obtaining public jobs, which would make reform more likely (Ruhil and Camoes, 2003). In Tables A4 and A5, I also control for the fraction of the state population that is foreign-born, and find that the estimates above remain robust both in sign and in magnitude.

Education spending. A question arises regarding the treatment of education spending. On

the one hand, school districts are autonomous government units with their own politics that in many respects resemble that of other local governments (see, e.g., Moe, 2006). Therefore, once a state-level merit system is adopted, state politicians may have similar incentives to increase transfers to school districts as they have for other local governments. On the other hand, education may be viewed as a large and heterogenous area of spending with its own reorganization reforms throughout the 20th century. The above findings may be less convincing if they were driven exclusively by education spending. I have checked that this is not the case by subtracting all education spending from the corresponding categories and re-running the regressions (see Table A6 in the Appendix). As expected, the results are somewhat weaker but the coefficients always have the right sign and are generally statistically significant.

7 How does bureaucratic reform affect public investment?

The preceding sections showed that politicians respond to bureaucratic reform at the state level by relying more heavily on local governments in the administration of state expenditures. Does this reallocation of expenditures in turn have an effect on the level of spending?

Rauch (1995) has found that municipal reforms in the Progressive Era led to more investment on roads, sewerage and water infrastructure at the city level. He interprets these findings in a framework where bureaucrats can directly influence politicians' behavior by providing them with selective information. The increase in job security afforded by the merit system extends bureaucrats' time horizon, leads them to favor long-run projects, and they convince the politician to spend more in these areas. While this story may be an accurate description of reform in lower level governments, an important difference between local governments and state governments is the ability to transfer resources to lower-level governments in the same jurisdiction. Above, I have shown that state governments responded

to civil service reform in their bureaucracies by making such transfers. This suggests that the impact on total infrastructure investments (the sum of direct and intergovernmental spending) may also differ between these levels of government.

Table 7 investigates the effect of the merit system on investment projects by state governments. In panel A, the dependent variable is the share of capital outlays on roads in total state expenditures, and I find that introducing the merit system *reduces* state government spending in this category. The estimated coefficient is between -1.3 and -1.5 percentage points depending on the sample and whether the political and urbanization controls are included. I also find a small but statistically significant difference between merit systems with and without an independent personnel executive (Column (4)). Panel B estimates the effect of the merit system on total capital outlays as a fraction of state spending. The coefficients are again negative, and statistically significant in the post-1960 sample. Here too, an independent personnel executive reinforces the negative effect, but this coefficient is not significant.²⁹ Controlling for intergovernmental revenues from the federal government again yields similar and somewhat stronger results (see Table A7 in the Appendix). Finally, Table 8 looks at the sum of capital outlays by the state government and all local governments in the state. This data is available for fewer years, but the estimated coefficients are consistently negative (although only statistically significant for capital outlays on roads).

These findings reject a positive effect of state-level merit systems on capital investment. Instead, the reallocation of expenditures between direct and intergovernmental spending at the state level appears to have resulted in a reduction in long-term investment projects.³⁰ The contrast with the findings of Rauch (1995) highlights the different opportunities available to state and local governments to respond to reform through intergovernmental spending.³¹

²⁹Unfortunately the Census data does not contain information on state-level sewerage or water investment prior to 1977, preventing me from studying the effect of the merit system on these categories.

³⁰In the absence of real government output measures, an alternative interpretation of these results could be a reduction in wasteful spending (holding the amount of physical investment constant).

³¹There are both substantial and technical differences between Rauch's analysis and mine which could also be responsible for the different findings. First, Rauch focuses on cities in an earlier period (1902-1931), and public investment projects then may be fundamentally different from those undertaken in my period of study. Second, due to data limitations Rauch was unable to control for time-varying factors that might

8 Conclusion

To understand the costs and benefits of bureaucratic reform, one needs to look beyond the immediate impact of reform on bureaucrats' behavior. Rules governing the operation of bureaucracies constrain politicians and may therefore affect the policies adopted. For example, while few would dispute that it is desirable to have qualified bureaucrats in charge of implementing any given policy, the welfare evaluation of merit-based recruitment requires understanding how reforms may change the policies that bureaucrats will be required to implement.

This paper has used new data on the timing of civil service reforms in US states to study the effect of bureaucratic rules on policy making. My results show that state governments respond to civil service regulations by increasing their reliance on local governments in administering state spending. Such reallocation is also observed for politically sensitive categories like welfare and roads. This is consistent with politicians rationally substituting away from expenditures where they are constrained in their ability to pursue their self-interest. In turn, I find evidence that the reallocation of expenditures leads to lower total spending on long-term capital projects.

Did the merit system raise social welfare? Measuring the quality of government performance is notoriously hard, and I am not aware of any data that would allow addressing this question directly in the present context. Thus, the above results only warrant normative statements under certain assumptions. First, in the context of the model presented in Section 4, the increase in intergovernmental transfers following reform has negative implications for social welfare as long as state-level bureaucrats were at least as productive as local bureaucrats before reform ($\alpha \geq \beta$). Second, in the context of previous studies that have argued that government investment in infrastructure leads to economic growth, the findings in Section 7 of a reduction in investment also have negative welfare implications. However, even if reform had an undesirable effect on politicians' choices, it is possible that this was simultaneously affect reform and expenditures.

more than offset by direct improvements in the functioning of the bureaucracy. My results provide one ingredient to the welfare analysis of civil service regulations by emphasizing that reforms affect the policy choices of elected politicians.

Although my quantitative findings are specific to the institutions and period being studied, the results have broad policy implications for current reform proposals, especially in the context of a federal system. For example, the Introduction mentioned several US states that have recently made steps towards weakening the civil service protections of state employees. While critics have worried about a return of patronage practices, my paper suggests a complementary consideration. If these state-level reforms are not accompanied by similar changes at the local level, politicians may have an incentive to *reduce* the fraction of spending going to local governments.

Clearly, politicians may react to civil service rules in other dimensions as well. For example, Iyer and Mani (2011) argue that while constrained by civil service rules, politicians in India are able to control bureaucrats by threatening them with reassignment to less desirable positions. Influence is also possible by re-designing the administrative procedures of government agencies (McCubbins et al., 1987). Studying whether civil service reform affects the reassignment of bureaucrats, administrative procedures, or other aspects of politicians' behavior is an interesting topic for future research.

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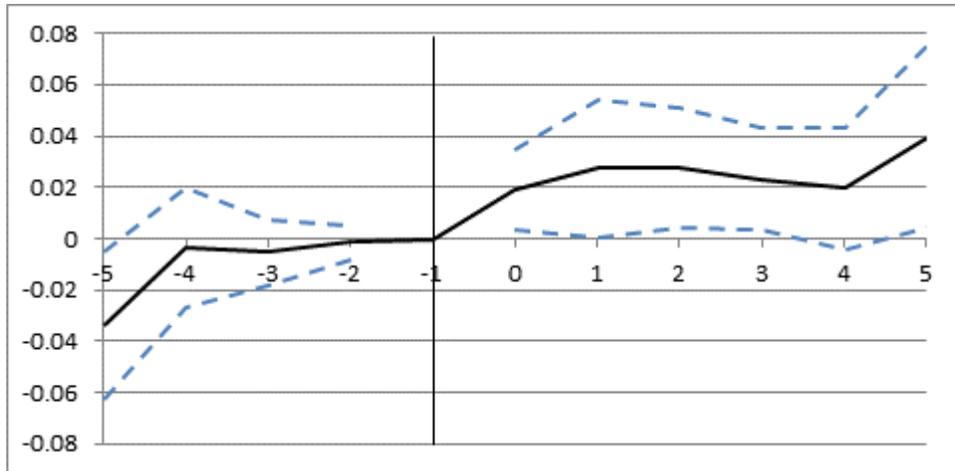


Figure 1. Event study

The figure plots coefficient estimates from regressing the fraction of intergovernmental expenditures on five leads and lags of Merit (Equ. (3)). On the horizontal axis, negative (positive) numbers denote the number of years before (after) adoption. The dotted line represents the 95% confidence interval. Controls include Party strength, Citizen ideology, Percent urban, and all controls listed in the notes to Table 3. The estimation sample is post1960, using a balanced set of states to estimate all lags and leads.

Table 1. Year of introduction of a comprehensive merit system in US states

State	Year
West Virginia	1989
Mississippi	1977
Montana	1976
Nebraska	1975
North Dakota	1975
South Dakota	1973
Arkansas	1969
South Carolina	1969
Arizona	1968
Delaware	1968
Florida	1967
Idaho	1967
Iowa	1967
Pennsylvania	1963
Utah	1963
New Mexico	1961
Washington	1961
Kentucky	1960
Oklahoma	1959
Wyoming	1957
Nevada	1953
Louisiana	1952 ¹
New Hampshire	1950
Vermont	1950
North Carolina	1949
Georgia	1945
Missouri	1945
Oregon	1945
Virginia	1943
Indiana	1941
Kansas	1941
Michigan	1941 ²
Alabama	1939
Minnesota	1939
Rhode Island	1939
Connecticut	1937
Maine	1937
Tennessee	1937
Maryland	1921
Colorado	1919
California	1913
Ohio	1913
New Jersey	1908
Illinois	1905
Wisconsin	1905
Massachusetts	1885
New York	1883

Notes: Data sources can be found in the Appendix. Texas never had a comprehensive merit system

¹ Earlier system effective 1940-1948

² Earlier system effective 1937-1939

Table 2. Variable definitions and summary statistics

Variable	Definition	Obs	Mean	Std. Dev.	Min	Max
Merit	1 if merit system with general coverage is in place	1872	0.73	0.45	0	1
IPE	1 if personnel executive not appointed by governor	897	0.46	0.50	0	1
Total employment	Log (number of state employees)	1728	10.37	0.95	7.57	12.70
Part-time employment	Log (number of part-time state employees + 1)	1584	8.76	1.10	0	11.48
Full-time employment	Log (number of full-time state employees)	1584	10.15	0.96	7.33	12.43
Total payroll	Log (total monthly payroll expenditures in \$1000)	1728	10.53	1.09	7.34	13.27
Avg. full-time equivalent wage	Log (average full-time equivalent monthly wage in \$)	1584	7.28	0.23	6.63	7.80
Total expenditures	Total state government expenditures per capita (\$1000)	1872	882.47	459.75	123.14	2696.46
IG expenditures	Total intergovernmental expenditures per capita by the state government to lower level governments (\$1000)	1872	241.69	156.25	15.27	1009.41
Share of IG expenditures	Share of IG expenditures in state government expenditures	1872	0.27	0.10	0.04	0.69
Share of IG expenditures in welfare expenditures	Share of intergovernmental public welfare expenditures in total public welfare expenditures by the state government	1632	0.22	0.34	0	0.99
Share of IG expenditures in spending on roads	Share of intergovernmental spending on roads in total spending on roads by the state government	1872	0.18	0.14	0	0.83
Capital outlays on roads	Share of capital outlays on roads in total state government expenditures	1632	0.12	0.06	0.01	0.39
Capital outlays	Share of capital outlays in total state government expenditures	1872	0.17	0.07	0.02	0.47
Income	Annual income per capita (\$1000)	1872	8.75	2.71	2.65	16.84
Population	Log (state population in 1000)	1872	7.80	1.02	4.93	10.16
Kids	Fraction of population aged 5-17	1872	0.24	0.03	0.16	0.31
Aged	Fraction of population aged > 65	1872	0.10	0.02	0.04	0.19
Rep. control	1 if Republican party has a majority in both houses of the state legislature	1798	0.32	0.47	0	1
Dem. control	1 if Democratic party has a majority in both houses of the state legislature	1797	0.53	0.50	0	1
Governor's party	1 if governor is a Democrat	1819	0.59	0.49	0	1
Citizen ideology	measure of citizen ideology (liberalism)	1200	0.44	0.17	0.01	0.88
Percent urban	Fraction of urban population	1872	0.62	0.16	0.21	0.92
Federal IG transfers	Per capita federal IG transfers to the state (\$ million)	1872	0.21	0.14	0.01	0.81
Home rule	1 if state allows city home rule	1794	0.61	0.49	0	1
Immigrants	Fraction of foreign born population	1872	0.04	0.04	0.00	0.21

Notes: All monetary values real (1 = 1982-1984). Data sources can be found in the Appendix.

Table 3: Intergovernmental expenditures and the merit system

	Dependent variable: Share of IG expenditures in total expenditures				
	(1) Full sample	(2) Full sample	(3) post1960	(4) post1960	(5) Full sample
Merit	0.030** (0.012)	0.032*** (0.012)	0.032** (0.013)	0.039*** (0.012)	0.018** (0.008)
Party strength		Yes		Yes	
Percent urban		Yes		Yes	
Citizen ideology				Yes	
State trends					Yes
R^2	0.16	0.18	0.19	0.23	0.57
N	1,872	1,785	1,095	1,095	1,872

Notes: All regressions include a constant, state and year fixed effects, log state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over. Party strength variables include Dem. control, Rep. control, and Governor's party. Full sample: 48 continental states, 1941-1983. post1960: 1960-1983, excluding Nebraska and Minnesota (these are the years/states for which political and ideology controls are available). Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 4: State employees and the merit system

	(1) Full sample	(2) Full sample	(3) post1960	(4) post1960
<u>A. Dependent variable: Log total employment</u>				
Merit	-0.036 (0.035)	-0.054 (0.033)	-0.035 (0.026)	-0.052** (0.025)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R ²	0.96	0.96	0.95	0.95
N	1,680	1,601	1,095	1,095
<u>B. Dependent variable: Log full-time employment</u>				
Merit	-0.004 (0.035)	-0.020 (0.035)	-0.024 (0.029)	-0.044 (0.027)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R ²	0.95	0.95	0.94	0.94
N	1,680	1,601	1,095	1,095
<u>C. Dependent variable: Log part-time employment</u>				
Merit	-0.141** (0.068)	-0.162** (0.070)	-0.115* (0.063)	-0.119* (0.063)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R ²	0.75	0.79	0.82	0.82
N	1,680	1,601	1,095	1,095
<u>D. Dependent variable: Log total monthly payroll</u>				
Merit	-0.011 (0.037)	-0.026 (0.036)	-0.017 (0.036)	-0.034 (0.033)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R ²	0.98	0.98	0.95	0.95
N	1,680	1,601	1,095	1,095
<u>E. Dependent variable: Log avg. full-time equivalent wage</u>				
Merit	-0.003 (0.011)	0.002 (0.012)	0.016 (0.015)	0.017 (0.016)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R ²	0.94	0.94	0.80	0.80
N	1,440	1,371	1,095	1,095

Notes: All regressions include a constant, state and year fixed effects, log state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over. Party strength variables include Dem. control, Rep. control, and Governor's party. Full sample: 48 continental states, 1945-1983 in panels A-D, 1951-1983 in panel E; post1960: 1960-1983, excluding Nebraska and Minnesota (these are the years/states for which political and ideology controls are available). Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 5: Intergovernmental expenditures on welfare and roads

	(1) Full sample	(2) Full sample	(3) post1960	(4) post1960
<u>A. Dependent variable: Share of IG expenditures in welfare expenditures</u>				
Merit	0.085* (0.048)	0.138*** (0.039)	0.120*** (0.040)	0.160*** (0.046)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R ²	0.38	0.40	0.38	0.42
N	1,632	1,555	1,095	1,095
<u>B. Dependent variable: Share of IG expenditures in spending on roads</u>				
Merit	0.022* (0.011)	0.022* (0.012)	0.018** (0.008)	0.015* (0.008)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R ²	0.32	0.33	0.22	0.22
N	1,872	1,785	1,095	1,095

Notes: All regressions include a constant, state and year fixed effects, state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over. Party strength variables include Dem. control, Rep. control, and Governor's party. Full sample: 48 continental states, 1950-1983 in panel A, 1941-1983 in panel B. post1960: 1960-1983, excluding Nebraska and Minnesota (these are the years/states for which political and ideology controls are available). Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 6: Independent personnel executive

Dep. var.:	(1) Share of IG exp. in total	(2) Share of IG exp. in welfare	(3) Share of IG exp. in roads
Merit	0.028** (0.011)	0.104** (0.048)	0.007 (0.010)
IPE	0.011* (0.006)	0.049* (0.028)	0.020** (0.009)
Party strength	Yes	Yes	Yes
Percent urban	Yes	Yes	Yes
Citizen ideology	Yes	Yes	Yes
R^2	0.25	0.35	0.20
N	805	805	805
F test: Merit + IPE = 0	13.602	10.474	9.127
p value	0.001	0.002	0.004

Notes: All regressions include a constant, state and year fixed effects, state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over. Party strength variables include Dem. control, Rep. control, and Governor's party. Sample: 46 continental states (excluding Nebraska and Minnesota), 1965-1983. Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 7: Public investment and the merit system

	(1) Full sample	(2) Full sample	(3) post1960	(4) post1960
<u>A. Dependent variable: Capital outlays on roads</u>				
Merit	-0.014 (0.009)	-0.013 (0.008)	-0.015* (0.009)	-0.012 (0.008)
IPE				-0.008* (0.004)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R^2	0.75	0.75	0.81	0.80
N	1,632	1,555	1,095	805
F test: Merit + IPE = 0				7.017
p value				0.011
<u>B. Dependent variable: Total capital outlays</u>				
Merit	-0.006 (0.008)	-0.005 (0.008)	-0.016* (0.008)	-0.017** (0.008)
IPE				-0.006 (0.004)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R^2	0.73	0.73	0.84	0.83
N	1,872	1,785	1,095	805
F test: Merit + IPE = 0				8.901
p value				0.005

Notes: Dependent variables are as a fraction of total expenditures. Regressions include a constant, state and year fixed effects, state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over. Party strength variables include Dem. control, Rep. control, and Governor's party. Full sample: 48 continental states, 1951-1983 in panel A, 1941-1983 in panel B. post1960: 1960-1983, excluding Nebraska and Minnesota (these are the years/states for which political and ideology controls are available). Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 8: Public investment and the merit system, state + local totals

	(1) Full sample	(2) Full sample	(3) post1960	(4) post1960
<u>A. Dependent variable: Capital outlays on roads, state+local</u>				
Merit	-0.010*	-0.011*	-0.014**	-0.016**
	(0.006)	(0.006)	(0.006)	(0.008)
IPE				0.000
				(0.003)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R^2	0.83	0.83	0.83	0.82
N	576	551	505	419
F test: Merit + IPE = 0				4.531
p value				0.039
<u>B. Dependent variable: Total capital outlays, state+local</u>				
Merit	-0.003	-0.004	-0.003	-0.007
	(0.008)	(0.007)	(0.009)	(0.014)
IPE				-0.003
				(0.006)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R^2	0.78	0.78	0.80	0.78
N	1,344	1,279	1,095	805
F test: Merit + IPE = 0				0.845
p value				0.363

Notes: Dependent variables are as a fraction of total expenditures. Regressions include a constant, state and year fixed effects, log state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over. Party strength variables include Dem. control, Rep. control, and Governor's party. Full sample: 48 continental states, 1956, 1961, 1966, 1971, 1976-1983 in panel A, 1956-1983 in panel B. post1960: 1960-1983 subsample, excluding Nebraska and Minnesota. Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

APPENDIX A: DATA SOURCES AND DEFINITIONS

1. Merit system

For all states, the sources include *The Book of the States*, Lexington, KY: The Council of State Governments (various issues) as well as Civil Service Assembly of the United States and Canada: *Civil Service Agencies in the United States*, Pamphlets Nos. 11 (1937), 16 (1940), and 17 (1943).

Additional state-specific sources are listed below.

- Arizona*: Kellough and Nigro (2006, Ch 8). Arizona State Personnel Commission (1970): *Annual Report 1968-69*, Phoenix, AZ: Arizona State Personnel Commission
- Arkansas*: Blair, D.D., and J. Barth (2005): *Arkansas politics and government*, Lincoln, NE: University of Nebraska Press; Uniform Classification and Compensation Act (Act 199 of 1969); Holley, D. (1986): "Carl E. Bailey, the Merit System, and Arkansas Politics, 1936-1939," *Arkansas Historical Quarterly* 45, 291-320.
- Colorado*: Buchanan, D.V. (1932): *The merit system in Colorado*, MA thesis, University of Colorado.
- Delaware*: Boyer, W.W. (2000): *Governing Delaware: Policy Problems in the First State*, Cranbury, NJ: Associated University Presses. Title 29, Chapter 59, Delaware Code.
- Florida*: Kellough and Nigro (2006, Ch 7). Florida Statutes 1967, Chapter 110 available at <http://archive.org/details/FloridaStatutes1967Volume1>
- Georgia*: Constitution of 1945, Article XIV
- Idaho*: Rules and Regulations of the Idaho Personnel Commission: Adopted January 5, 1967.
- Iowa*: "Senate votes in merit system," *Ames Daily Tribune*, April 14, 1967, p1. *The Rules of the Merit System of Iowa*, 1971, Des Moines, IA: Iowa Merit Employment Department.
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- Mississippi*: General laws of 1976, Chapter 377
- Missouri*: Faust, M.L. (1946): "Reorganization in Missouri," *National Municipal Review* Volume 35, Issue 8, pages 402-407.
- Montana*: Montana Department of Administration (1974): *Statewide Classification and Pay Plans*, Report to Governor Thomas L. Judge, Helena, MT: State of Montana Department of Administration. Montana Legislative Audit Division (1997): *Personnel Classification, Performance Survey Report to the Legislature*, Helena, MT: State of Montana Legislative Audit Division.
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- New Mexico*: Hain, P.L., C. Garcia, and G.K. St Clair (1994): *New Mexico Government*, University of New Mexico Press.
- North Carolina*: NC Office of Archives and History (2009): <http://www.stateschedules.ncdcr.gov/AgencyHistory.aspx?L1=Office%20of%20State%20Personnel>
- North Dakota*: ND Office of Management and Budget (2010): <http://www.nd.gov/hrms/about/history.html>
- Oklahoma*: Oklahoma Office of Personnel Management (2005): http://www.ok.gov/opm/About_OPM/Our_History/index.html
- Oregon*: Stahl, O.G. (1956): *Public Personnel Administration*, 4th ed, New York, NY: Harper and Brothers.
- Pennsylvania*: Pennsylvania State Archives (2012) <http://www.phmc.state.pa.us/bah/dam/rg/rg3ahr.htm>
- South Carolina*: Kellough and Nigro (2006, Ch 8)
- South Dakota*: SD Statutes and Codes, Title 3 at <http://www.find-laws.com/statutes/south-dakota>
- Vermont*: Stahl, O.G. (1956): *Public Personnel Administration*, 4th ed, New York, NY: Harper and Brothers. VT Department of Human Resources (2012): *Vermont Civil Service and the Merit System* at http://humanresources.vermont.gov/services/new_employee_orientation/merit_system
- Washington*: Washington State Department of Personnel (1989): *A History of Personnel Systems for Washington State*, Olympia WA.
- West Virginia*: WV Division of Personnel (2012): <http://www.state.wv.us/admin/personnel/>
- Wyoming*: Office of the Attorney General of Wyoming (2011): Formal Opinion 2011-002, August 25, 2011

2. Independent Personnel Executive

Source: *The Book of the States*, Lexington, KY: The Council of State Governments (various issues). Takes the value of 0 if personnel executive appointed by the governor, 1 o/w (appointed by personnel board, department head, or civil service commission). Years available: from 1965.

3. Other data

Consumer Price Index (CPI). Source: U.S. Department of Labor: Bureau of Labor Statistics, <http://www.bls.gov>. Consumer Price Index for All Urban Consumers, not seasonally adjusted. Yearly value obtained by averaging across months. 1982-84 = 100.

Employment and payroll data. Source: US Census Bureau: Public Employment Report Series Historical Data Base, state government variables. Total Employees, Total Payrolls. Years available: from 1946, with 1951 missing. Total Full Time Employees, Part-time employment = Total Employees – Total Full Time Employees, Average full-time equivalent wage = Total Payrolls / Total Full-time Equivalent employment. Years available: from 1946, with 1951 and 1958-1960 missing.

State expenditures. Source: US Census Bureau, State Government Finances Publication Historical Data Base, state government variables. Total Expenditure, IG Exp-To Local Govts, Direct Expenditure, Total Capital Outlays, Regular Hwy-Total Exp, Regular Hwy-Total IG, Public Welf-Total Exp. Available years: from 1942, with 1943, 1945, 1947, 1949 missing. Public Welf-Tot IG Exp. Available years: from 1951.

Detailed definitions (<http://www.census.gov/govs/state/definitions.html>):

IG expenditures: “Amounts paid to other governments for performance of specific functions or for general financial support. Includes grants, shared taxes, contingent loans and advances, and any significant and identifiable amounts or reimbursement paid to other governments for performance of general government services or activities. Excludes amounts paid to other governments for purchase of commodities, property, or utility services and for any tax levied as such on facilities of the government.”

Capital outlays: “Expenditure for contract or force account construction of buildings, grounds, and other improvements, and purchase of equipment, land, and existing structures. Includes amounts for additions, replacements, and major alterations to fixed works and structures. However, expenditure for repairs to such works and structures is classified as current operation expenditure.”

Welfare expenditures: “Support of and assistance to needy persons contingent upon their need. Excludes pensions to former employees and other benefits not contingent on need. Expenditures under this heading include: Cash assistance paid directly to needy persons under the categorical programs (Old Age Assistance, Temporary Assistance for Needy Families (TANF) and under any other welfare programs; Vendor payments made directly to private purveyors for medical care, burials, and other commodities and services provided under welfare programs; and provision and operation by the government of welfare institutions. Other public welfare includes payments to other governments for welfare purposes, amounts for administration, support of private welfare agencies, and other public welfare services. Health and hospital services provided directly by the government through its own hospitals and health agencies, and any payments to other governments for such purposes are classed under those functional headings rather than here.”

Regular highways: “Construction, maintenance, and operation of [non-toll] highways, streets, and related structures, bridges, tunnels, ferries, street lighting and snow and ice removal. However, highway policing and traffic control are classed under Police protection.”

Income and population. Source: Bureau of Economic Analysis: Regional Economic Accounts, <http://www.bea.gov/regional/spi/>. State Annual personal income. Population figures reported in this source are midyear estimates of the Census Bureau.

Aged and kids. Source: US Census Bureau. The post-1970 data was compiled by List, J.A., and D.M. Surm (2006): “How Elections Matter: Theory and Evidence from Environmental Policy,” *Quarterly Journal of Economics* 121(4), 1249-1281. The pre-1970 was entered from Population Projection (P25) Reports. Measures, respectively, the fraction of population aged 5-17 and 65 and above. Imputed years: 1941-49, 1959, 1969.

Percent urban and Immigrants. Source: US Census Bureau. Urban and Rural Population 1900-1990, released 1995, available at <http://www.census.gov/population/censusdata/urpop0090.txt>. Decennial Data on the Foreign-Born Population, available at <http://www.census.gov/population/foreign/data/decennial.html>. Years between censuses were linearly interpolated.

Party control and governor's party. Source: Burnham, W. Dean, "Partisan Division of American State Governments, 1834-1985," Conducted by Massachusetts Institute of Technology, ICPSR ed. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research [producer and distributor], 1986. All variables merged so that they reflect party composition for the given year (for election years, party composition reflects the pre-election situation). Before 1975, this requires shifting the variables forward by 1 year.

Governor's party: 1 if Democrat, 0 if Republican or Maine 1975-1978 (independent). Corrections: ME 1960, Republican (John H. Reed, Dec 30 1959 to Jan 5 1967); NY 1943, Republican (Thomas Dewey from Jan 1 1943 to Dec 31 1954), NY 1955, Democrat (W. Averell Harriman from Jan 1 1955 to Dec 31 1958), NY 1959 Republican (Nelson Rockefeller from Jan 1 1959 to Dec 18 1973); UT 1965-1969, Democrat (Calvin L. Rampton from Jan 4 1965 to Jan 3 1977); WI 1943, Republican (Walter S. Goodland from Jan 4 1943 to March 12 1947); WY 1973, Republican (Stanley K. Hathaway from Jan 2 1963 to Jan 6 1975)
Rep. control: 1 if Republicans have a majority in both houses of the state legislature, 0 o/w
Dem. control: 1 if Democrats have a majority in both houses of the state legislature, 0 o/w

Citizen ideology. Source: Berry, William D., Evan J. Ringquist, Richard C. Fording and Russell L. Hanson. 1998. "Measuring Citizen and Government Ideology in the American States, 1960-93." *American Journal of Political Science* 42:327-48. This index uses ideological ratings of congressional candidates by the Americans for Democratic Action and the AFL/CIO's Committee on Political Education and their vote shares to estimate the ideological composition of electoral districts; these are then aggregated to form a statewide measure of citizens' ideology (degree of liberalism, on a scale 0-100).

Home rule. Source: Krane, D., P.N. Rigos, and M.B. Hill, Jr. (2001): Home rule in America: a fifty-state handbook, Washington, D.C.: CQ Press. Lists the dates of adoption of Municipal Government Home Rule provisions for each state (if any). Variable takes the value of 1 if state allows at least structural home rule in a given year. 0 if other regime (e.g., Dillon's rule), missing if unknown.

APPENDIX B: ADDITIONAL RESULTS

Table A1: Intergovernmental expenditures and the merit system, detailed regressions

	Dependent variable: Share of IG expenditures in total expenditures					
	(1)	(2)	(3)	(4)	(5)	(6)
Merit	0.030** (0.012)	0.030** (0.012)	0.031** (0.012)	0.033*** (0.011)	0.034*** (0.012)	0.039*** (0.012)
Income	-0.009 (0.014)	-0.013 (0.014)	-0.012 (0.014)	-0.002 (0.013)	0.017 (0.015)	0.021 (0.016)
Income ²	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Population	0.251*** (0.068)	0.262*** (0.068)	0.251*** (0.067)	0.321*** (0.068)	0.266* (0.149)	0.309** (0.140)
Population ²	-0.015*** (0.005)	-0.016*** (0.005)	-0.016*** (0.005)	-0.017*** (0.005)	-0.014 (0.010)	-0.014 (0.010)
Kids	0.203 (0.645)	0.137 (0.664)	0.135 (0.651)	-0.084 (0.691)	0.724* (0.430)	0.308 (0.371)
Aged	0.659 (0.494)	0.724 (0.493)	0.699 (0.492)	0.757 (0.491)	-0.429 (0.461)	-0.168 (0.419)
Rep. control		-0.004 (0.006)				0.002 (0.005)
Dem. control		-0.006 (0.008)				0.003 (0.007)
Governor's party			0.004 (0.005)			0.003 (0.004)
Percent urban				-0.251 (0.162)		-0.410 (0.248)
Citizen ideology					-0.041 (0.030)	-0.037 (0.028)
R ²	0.16	0.16	0.16	0.18	0.21	0.23
N	1,872	1,785	1,817	1,872	1,152	1,095
F test	5.467	5.581	4.894	5.772	1.961	1.605
p-value	0.000	0.000	0.000	0.000	0.081	0.130

Notes: All regressions include state and year fixed effects. The last two rows report the F-test corresponding to all included control variables (except Merit). Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table A2: Intergovernmental, Direct, and Total expenditures

Dep. var.:	IG expenditures	Direct expenditures	Total expenditures
(1)	19.258* (11.124)	19.811 (22.991)	38.727 (24.372)
(2)	21.961* (10.959)	29.081 (23.185)	50.848** (24.687)
(3)	31.689* (16.362)	-7.434 (26.989)	23.924 (27.607)
(4)	35.683** (16.004)	-7.067 (25.824)	28.421 (26.124)

Notes: Each cell in the table shows the coefficient on Merit from a different regression. The first row gives the dependent variable (real, per capita), and the first column gives the specification, which corresponds to columns (1-4) in Table 3: row (1) is for the full sample with only the basic controls, row (2) adds party strength and urban, row (3) is for the post1960 sample with the basic controls, and row (4) adds all controls including citizen ideology. Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table A3: Estimates used to construct Figure 1

Dep var.: Share of IG expenditures	
Merit(+5)	-0.034** (0.014)
Merit(+4)	-0.004 (0.012)
Merit(+3)	-0.005 (0.006)
Merit(+2)	-0.001 (0.003)
Merit(0)	0.019** (0.008)
Merit(-1)	0.027** (0.013)
Merit(-2)	0.028** (0.012)
Merit(-3)	0.023** (0.010)
Merit(-4)	0.020 (0.012)
Merit(-5)	0.040** (0.017)
R^2	0.24
N	930

Notes: Estimates corresponding to Figure 1 (Equ (3)). Merit(x) denotes x years before adoption (after it if negative). The excluded category is Merit(1). All lags and leads estimated using a balanced set of states. Regression includes a constant, state and year fixed effects, log state population and its square, real per capita income and its square, the fraction of population aged 5-17, the fraction aged 65 and over, urbanization, party strength measures, and citizen ideology. Years 1960-1983, excluding Nebraska and Minnesota (these are the years/states for which political and ideology controls are available). Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table A4: Share of IG expenditures in total expenditures, with further controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Full sample	Full sample	Full sample	Full sample	post1960	post1960	post1960	post1960
Merit	0.034*** (0.011)	0.023** (0.009)	0.034*** (0.012)	0.032*** (0.012)	0.039*** (0.012)	0.034*** (0.012)	0.037*** (0.012)	0.038*** (0.013)
Fed IG transfers	-0.172*** (0.053)				-0.190*** (0.063)			
Total employment		-0.139*** (0.019)				-0.114*** (0.037)		
Home rule			0.006 (0.013)				0.015 (0.012)	
Immigrants				0.043 (0.496)				-0.284 (0.814)
R^2	0.20	0.30	0.24	0.18	0.26	0.28	0.24	0.23
N	1,785	1,601	1,707	1,785	1,095	1,095	1,047	1,095

Notes: All regressions include a constant, state and year fixed effects, log state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over, and party strength measures. Columns 5-8 also control for citizen ideology. Full sample: 46 continental states (excluding MN and NE), 1941-1983. post1960: 1960-1983. Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table A5: Independent personnel executive, with further controls

	(1)	(2)	(3)	(4)
Merit	0.029** (0.011)	0.024** (0.010)	0.028** (0.011)	0.026** (0.011)
IPE	0.011* (0.006)	0.010 (0.006)	0.011* (0.006)	0.011* (0.006)
Fed IG transfers	-0.146** (0.057)			
Total employment		-0.113*** (0.035)		
Home rule			0.017 (0.010)	
Immigrants				-0.669 (0.845)
R^2	0.27	0.30	0.26	0.26
N	805	805	767	805
F test: Merit + IPE = 0	15.188	11.709	14.621	12.809
p value	0.000	0.001	0.000	0.001

Notes: All regressions include a constant, state and year fixed effects, log state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over, party strength measures, and citizen ideology. 46 continental states (excluding MN and NE), 1965-1983. Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table A6: Results without education spending

	Dependent variable: Share of IG expenditures in total expenditures				
	(1) Full sample	(2) Full sample	(3) post1960	(4) post1960	(5) post1960
Merit	0.028** (0.011)	0.030** (0.012)	0.020** (0.009)	0.025*** (0.009)	0.017 (0.011)
IPE					0.009 (0.008)
Party strength		Yes		Yes	Yes
Percent urban		Yes		Yes	Yes
Citizen ideology				Yes	Yes
R^2	0.18	0.20	0.12	0.15	0.22
N	1,872	1,785	1,095	1,095	805
F test: Merit + IPE = 0					5.187
p value					0.028

Notes: Education spending is excluded from all expenditure categories. All regressions include a constant, state and year fixed effects, state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over. Party strength variables include Dem. control, Rep. control, and Governor's party. Full sample: 48 continental states, 1941-1983. post1960: 1960-1983, excluding Nebraska and Minnesota. Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table A7: Public investment and the merit system, controlling for federal IG transfers

	(1) Full sample	(2) Full sample	(3) post1960	(4) post1960
<u>A. Dependent variable: Capital outlays on roads</u>				
Merit	-0.015* (0.008)	-0.015* (0.008)	-0.015* (0.009)	-0.013* (0.008)
IPE				-0.008* (0.004)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R ²	0.77	0.77	0.83	0.81
N	1,632	1,555	1,095	805
F test: Merit + IPE = 0				7.116
p value				0.011
<u>B. Dependent variable: Total capital outlays</u>				
Merit	-0.007 (0.007)	-0.008 (0.008)	-0.017** (0.008)	-0.019** (0.008)
IPE				-0.006 (0.004)
Party strength		Yes		Yes
Percent urban		Yes		Yes
Citizen ideology				Yes
R ²	0.74	0.74	0.85	0.84
N	1,872	1,785	1,095	805
F test: Merit + IPE = 0				8.843
p value				0.005

Notes: All regressions control for federal intergovernmental transfers. Dependent variables are as a fraction of total expenditures. Regressions include a constant, state and year fixed effects, log state population and its square, real per capita income and its square, the fraction of population aged 5-17 and the fraction aged 65 and over. Party strength variables include Dem. control, Rep. control, and Governor's party. Full sample: 48 continental states, 1951-1983 in panel A, 1941-1983 in panel B. post1960: 1960-1983, excluding Nebraska and Minnesota. Robust standard errors clustered at the state level in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$